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Abstract of Letter from Dr. Brice Worthington Goldsborough

PRESIDENT OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

"I will be very happy to subscribe to your JOURNAL, and I hope you may have every success. I will not only subscribe myself, but in my intercourse with my brother-physicians in my own county and during my term of office as president of the Faculty, in my visits to other counties, I will urge upon them to support the JOURNAL. It should be supported by the profession of Maryland, and in all of this you will have my active aid."

[NOTE.—This letter was not written for publication, Dr. Goldsborough kindly granting permission upon request.—PUBLISHERS.]

17558

PUBLIC AND PRIVATE WATER SUPPLIES IN MARYLAND.

By Marshall L. Price, M.D.,
Secretary of the State Board of Health of Maryland.

DURING the past year the State Board of Health has instituted a plan of compiling and rendering available for reference, information concerning water supplies and sewage disposal in Maryland. The necessity for this information may be realized when it is understood that some of the largest towns in this State are using water supplies which are admittedly polluted, some of them to a very great degree. The condition of some of these water supplies is due to complete ignorance or indifference to the simple principles of hygiene. Many of them could be very greatly improved, almost without expense, by a little common sense and understanding of the principles involved.

The original source of all the water available for water supplies is from the clouds. While water may undergo some trifling pollution during precipitation, from dust, gases and bacteria in the air (the latter generally of the harmless variety), the serious pollution of water, and the only one we need to consider from a practical standpoint, begins when the water reaches the surface of the earth. It is at this point that the problems of water supply and sewage disposal become so nearly related that it is impossible to consider the one problem without more or less reference to the other.

When water is precipitated upon the earth, either as rain or snow, a part evaporates and returns to the atmosphere. Of the remainder, a part goes off into streams, rivers and lakes, forming the surface waters, and a part descends into the ground to form "ground waters." This descent continues until an impervious stratum is reached beneath the soil, generally clay or rock, where the water collects, to form subterranean reservoirs, streams or lakes.

The course of sewage and other polluting materials, whether actually suspended in water or dissolved by rains, is exactly parallel to the course of the water derived from precipitation. For these reasons all waters are subjected to various forms of pollution, and would all be polluted were it not for the processes of natural purification. If water were used only for drinking purposes, the problem of water pollution would be relatively easy to solve; but, unfortunately, running water is the most convenient means of disposing of sewage and industrial wastes. Larger communities generally have to depend upon surface water for their water supplies, and this is usually the case in Maryland. The same stream is often used as a source of water supply and for the disposal of sewage. It happens not infrequently that a community will drink its own sewage. More frequently, however, the city or town will exercise some primitive care in its own water supply, and pass its

sewage to its neighbors. Both these conditions actually exist in Maryland.

The problem of water supplies in Maryland may be divided into two distinct classes—first, water supplies of the Western Shore and water supplies of the Eastern Shore. The Western Shore is generally mountainous, the watershed practically narrow and containing a number of rivers of large size, the degree of pollution of which varies with the condition of the watershed, especially as regards population. On the Eastern Shore, on the other hand, the elevation is low, the ground marshy and the rivers mere estuaries of the bay. On this account surface waters are not a practical source of supply on the Eastern Shore. This condition, which is an apparent misfortune, has really proven a blessing in disguise to the towns of the Eastern Shore. A deep, pure and abundant

Fig. 1.—Earth Closet in Hagerstown. Fig. 2.—Shallow-dug well, about 22 feet from the point shown in Fig. 1.

stratum of artesian water extends beneath Chesapeake Bay and the Eastern Shore, the depth varying very little from 300 feet, and from this the public water supplies of the larger towns are derived. This stratum of artesian water is almost wholly free from bacterial life and maintains its fine quality up to the Atlantic seaboard, where doubtless, owing to fissures in the bottom of the ocean, it becomes so salt as to be scarcely potable. This furnishes an ideal supply, both on the grounds of economy and health, for a population not exceeding 10,000 persons. The quantity is probably not sufficient for a much larger population.

PRIVATE WATER SUPPLIES.

Private water supplies in Maryland are largely derived from ground water. Occasionally deep-bored wells, or so-called artesian wells, are used as a source of private supply, and occasionally

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WATER SUPPLY OF

GENERAL DATA	POPULATION	NUMBER OF HOUSES

SITUATION ON THE

OR.....MILES FROM

PUBLIC WATER SUPPLY

Name of Water Company

Corporation or Town Ownership

If Corporation give name of President

If Corporation give name of Secretary

If Corporation give name of General Manager

Name of Town Mayor

Name of Town Health Officer

WELLS	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
Bored or Dug										
Diameter (in feet)										
Character of Soil										
Character of sub-soil										
Character of Water Bearing Stratum										
Depth (in feet) 1st Water 2nd Water 3rd Water										
Bricked or Cemented										
For (No feet)										
Covered or open										
Surroundings cleanly or not. Give kind of contamination and distance										
Can surface water get into it										
Depth (in feet)										
Capacity (in gal. per min.)										
Name of well (if any)										

COLLECTION

ABBREVIATIONS:—B-bored; D-dug; Br-bricked; Cm-cemented; C-covered; O-open;
SOILS:—Cl-clay; S-sand; Lo-loam; Gr-gravel; Gt-granite; Ss-sandstone; Ls-limestone.
Indicate water bearing stratum as follows: Cl. W-S Ls.

Fig. 3- (Obverse)

DATE

		NUMBER PEOPLE SUPPLIED BY PUBLIC WATER		NUMBER OF HOUSES SUPPLIED BY PUBLIC WATER	

(Give name of river, bay, stream or branch)

PRIVATE WATER SUPPLIES

Most common source of private supplies _____ (Wells, springs, river, pond, cisterns, etc.)

If from wells give average depth .....feet Dug or bored ..... Water bearing stratum W—

NOTE:—To get an adequate idea of private supplies sources should be chosen at different places separated for some distance and the ten sources provided for investigated.

WELLS	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
Bored or dug										
Diameter in feet)										
Character of soil										
Character of sub-soil										
Character of water bearing stratum										
Depth (in feet) 1st water 2nd water 3rd water										
Bricked or cemented										
For (no feet)										
Covered or open										
Surroundings cleanly or not Give kind of contamination and distance										
Can surface water get into it										
Depth (in feet)										
Name of owner										

SPRINGS	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
Covered or open										
Bricked or cemented										
Piped or not										
Surroundings cleanly or not. Give kind of contamination and distance										
Name of spring & owner										
STREAMS, RIVERS, PONDS, LAKES										
Name										
Nearest town discharging sewage										

Fig. 4—(Obverse)

PUBLIC WATER SUPPLY [CONTINUED]

1 COLLECTION [CONTINUED]

SPRINGS	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
Covered or open										
Bricked or cemented										
If Piped give diameter of pipe										
Surroundings cleanly or not. Give kind of contamination and distance										
Name of spring (if any)										
Capacity in gals. per min.										

PONDS or LAKES STREAMS, RIVERS or BRANCHES	No. 1	No. 2	No. 3	No. 4
State which				
Name (if pond give name of stream supplying it)				
Diameter of Intake ins.)				
Intake screened				
Situation of intake Distance from shore Distance from bottom				

SOURCES of POLLUTION										
Towns or communities emptying sewage into water supply. Give distance from intake in miles	1									
	2									
	3									
Other sources of pollution, hog pens, slaughter houses, tanneries, etc. State kind and distance in yards)	1									
	2									
	3									

2 IMPOUND

	Diameter Inlet	Of. Outlet (in.)	Bottom	Depth	Long Diam.	Sh. Dia.	Cap. gal.
No. 1							
No. 2							

3 STORAGE — S. Pipe

No. 1							
No. 2							

3 STORAGE — Res.

No. 1							
No. 2							

4 DISTRIBUTION

No. Gals. pumped in daily.....gals; Lost by leakage and evaporation ....gals; Delivered .....gals.

Elevation of reservoir above lowest part of system ....ft; above highest part .....ft; average .....ft.

Diameter street mains.....ins; Diameter house pipes .....ins.

Is there any accessory supply for fire or failure of the regular supply ....

How does it communicate with the regular system ....

Fig. 5.—(Reverse)

SEWAGE DISPOSAL

PUBLIC SEWAGE DISPOSAL

Name of Sewerage Company

Corporation or Town Ownership

If Corporation give name of President and Secretary

If Corporation give name of General Manager and Engineer

Number of houses connected with sewer		Number unconnected	
Number of lineal yards of street sewered		No. of lineal yards unsewered	

Diameter of street mains ____ inches ____ diameter house connections ____ inches Trapped / Untrapped

SEWER OUTLETS	No. 1	No. 2	No. 3	No. 4	No. 5
Public or private (give public first)					
Location of outlet					
Diameter of outlet (ins.)					
Elevation of outlet above tide water					
Name of body of water into which outlet empties					
If a branch or tributary give name of main stream					
Flow of stream in feet per minute					
Average fall of sewer per 100 feet					
Distance of sewer outlet from bank (ft.)					
Elevation of outlet from bottom (ft)					
No. gallons sewage discharged daily					
For sewers not emptying into water, state location of outlet and character of place where sewage is discharged					

SEWAGE DISPOSAL PLANT

SEDIMENTATION BASIN	ANAEROBIC TANK	AEROBIC TANK
Capacity in gallons	Capacity in gallons	Capacity in gallons
How often discharged (hrs)	How often filled	How often filled

	ANAEROBIC FILTER BED	AEROBIC FILTER BED
Area in acres		
No. gals. sewage each charge		
Interval between charges (min.)		
Capacity of filter in gallons per acre (winter and summer)		
Contact bed or continuous		
Sprinkling or trickling method		

Capacity (gals. per day) of system ____ Bacterial efficiency claimed ____

PRIVATE SEWAGE DISPOSAL

Give number or approximate number and underline the most common method

a. Privies (dug pits pervious)	d. Cess pools pervious without drains
b. Privies (water tight recepticals)	e. Cess pools pervious with drains
c. Privste sewers (into streams)	f. Cess pools water tight without drains
REFERENCES	g. Cess pools water tight with drains

Sign here

Fig. 6.—(Reverse)

springs or small streams are sources of water supply in rural districts. The bulk of private water supplies, however, is derived from shallow-dug wells, ranging in depth from 8 feet to 50 feet. These private supplies are, in thickly-settled districts, almost invariably polluted. A few of the larger towns are sewered, but even in these towns a considerable number of the population dispose of their sewage by the primitive previous pit method. Generally the well is only a short distance from this pit. Conditions typical of this method are shown on the photographs, Fig. 1 and Fig. 2. In this instance the distance between the pit and the well is about 22 feet. Under these conditions a constant danger exists, which only needs the development of some case of water-borne disease, to produce the inevitable result (which is generally typhoid fever) among the users of the water. Thus in the case of a family in Baltimore county, consisting of eight members, living under conditions similar to that described, there were in one summer seven persons attacked with typhoid fever, of whom one died and one escaped—a mortality for the house of 12.50 per cent. and a mortality for the sick of 14.29 per cent.

RECORDS OF WATER SUPPLIES.

Naturally, no complete and systematic control of water supplies is practicable without full data. This is being compiled as rapidly as possible by the State Board of Health and filed upon cards, indexed by counties and with a cross-reference for analyses and sanitary surveys. The obverse of this card is shown in Figs. 3 and 4 and the reverse in Figs. 5 and 6. It is intended that all public supplies shall be shown upon this card, and that at least 10 samples be taken from the most common source of private supplies, wells and springs. Due attention must, of course, be given to sewage disposal, as some of the sources of water supply in Maryland receive sewage from towns higher up the stream.

The information concerning public and private water supplies is made available through written opinions to local health officers, and the publication of such reports is always authorized. Such opinions are later published in the annual reports of the State Board of Health, and through the references on the card a water supply may be traced for several consecutive years. In order to systematize the collection of samples, certain points of water supplies are given official numbers and placed upon a map, one copy of which is filed in the office of the State Board of Health and one copy in the office of the local board of health. It is very important to properly identify all samples taken, and for this purpose the inspectors of the Board are supplied with sample books, a leaf of which is shown in Fig. 7. In collecting a sample the inspector fills out the designation label, one for the bacteriological and one for the chemical sample. Similar "identification labels" are filled out for each sample, both of which are dated, numbered, and signed by the inspector. A duplicate of all the labels is entered in the stub and likewise dated, signed, and numbered. By this system

WATER Sample No.

Town of Public or Private

Date

Inspector

	NAME	Official No.	Mark
Well			
Spring			
Pond or Lake			
Stream or River			
Impound Reservoir			
Storage Reservoir			
Stand Pipe			
Spigot			
Hydrant			

Date | Bacteriological Sample | Chemical Sample | Inspector

BACTERIOLOGICAL

	NAME	Official No.	Mark
Well			
Spring			
Pond or Lake			
Stream or River			
Impound Reservoir			
Storage Reservoir			
Stand Pipe			
Spigot			
Hydrant			

CHEMICAL

	NAME	Official No.	Mark
Well			
Spring			
Pond or Lake			
Stream or River			
Impound Reservoir			
Storage Reservoir			
Stand Pipe			
Spigot			
Hydrant			

WATER Sample No.

Town of Public or Private

Date

Inspector

WATER Sample No.

Town of Public or Private

Date

Inspector

Fig. 7.—Leaf of inspector's sample book. The upper part remains as a stub; the lower sections are gummed labels, two of which are attached to the bacteriological and two to the chemical sample.

confusion of the identity of the sample, which is frequently a cause of annoyance or confusion in court cases, is entirely avoided. Upon the labels and the stubs are also entered the "official number" and mark. Thus in the analysis of a town supply it is desirable to take samples from several of the spigots, especially near dead ends, for the purpose of comparison. Let us suppose that the inspector is taking the fifth sample from a spigot. A check mark is made opposite spigot on the label, and the inspector enters the name and location of the spigot as follows: A. B. Smith (house), 14th and B Sts. Official number 5. The mark is arranged according to the name of the town. Thus for Havre de Grace the mark would be H. D. G. P., No. 5. (Havre de Grace Public, No. 5). For private samples a small p. is used, and the corresponding number for a private supply would be H. D. G. p., No. 5. Water

Fig. 8.

companies and town officials are urged to mark all of these sources of supply with stones or boards, and in the case of hydrants to affix a lead seal, with the official mark.

ANALYSIS OF WATER SUPPLIES.

The analysis of water supplies is an important element in drawing conclusions as to the conditions of public and private water supplies. In a few cases this has an absolute value; more often the value of analysis is a relative one. Definite conclusions should not, as a rule, be drawn from either the bacteriological or chemical analysis alone. These analyses, in general, correspond, but occasionally in a polluted water supply, the bacteriological analysis will show the colon bacillus and a high bacterial count without a corresponding chemical change. More commonly, however, the chemical analysis will indicate pollution without a corresponding increase in

the bacterial count. Certain of these analyses are, however, to be taken as absolute. Thus, if the bacteriological analysis shows the colon bacillus to be present in a small quantity of water, and the bacterial count to be high, the water should be condemned, irrespective of the chemical analysis. On the other hand, if the chemical analysis shows the presence of nitrites, excessive amounts of chlorine or of free or albuminoid ammonia, the sample should be condemned, irrespective of its bacteriological analysis.

SANITARY SURVEY OF WATER SUPPLIES.

The sanitary survey of a water supply includes inspection of the storage, collection and distribution system, careful investigation of the watershed, including its topography and geological forma-

Fig. 9.—Collecting milk and water samples. The wagon in the foreground contains the sample cases.

tion, and the results of previous investigations. All of these points should be carefully considered in connection with the bacteriological and chemical analysis. Permanent records are always made by photographs, sketch maps, or both. In order to facilitate the saving of time and expense samples of other articles of food and drink are taken simultaneously with the water samples. In Fig. 8 a sample case and the method of collecting samples is shown. At the bottom of the sample case are 12 half-gallon bottles for the collection of chemical samples. Two of these shown are in the hands of the health officer. A tin tray in the upper portion of the case contains two dozen eight-ounce bottles for milk and miscellaneous foods and 12 small bottles for bacteriological samples. The compartment in the center contains 25 pounds of

ice. In Fig. 9 the start of the sampling wagon is shown, and also the carriage behind to carry the health officers and inspectors. The sanitary survey includes the examination of sewage disposal as well as water supply. In Fig. 10 the open sewer, draining the larger part of one of our towns in Maryland, is well shown. This ditch connects with another ditch, in which sewage is also flowing, the two joining to produce a small stream, which is shown emptying into a creek, a tributary (Fig. 11) of the river supplying water to one of our large American cities.

POLLUTION OF STREAMS AND OTHER SOURCES OF WATER SUPPLY.

Surface water, and especially flowing streams, are, of all sources of water supply, most subject to pollution. The refuse of factories, tanneries, hogpens, slaughter-houses are all conveniently

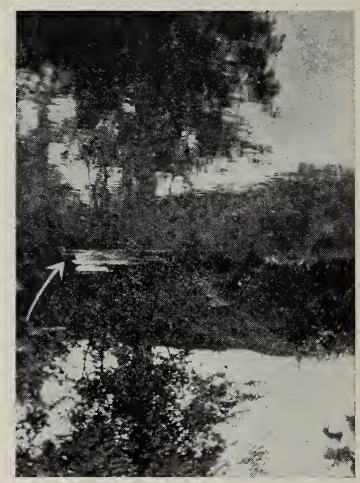


Fig. 10 – Sewage ditch. Fig. 11.—The sewage drain empties directly opposite. The small stream is shown by an arrow.

disposed of by means of flowing streams. While these materials are often noxious and offensive, as actual causes of disease, they sink into insignificance when compared with pollution by human sewage. The reason for this is that most water-borne diseases are of human origin, and do not affect the lower animals. But it must be remembered that intestinal parasites may be derived from animals through the medium of polluted water.

THE LEGAL REMEDY.

Both the State and local boards of health may proceed against the pollution of water supplies either by restraining orders or by injunctions through the courts, but such methods are generally too cumbersome, slow and expensive, not to say uncertain, and the Maryland statute making the pollution of streams a misdemeanor has always been most effective. This section is contained in Ar-

ANALYSIS OF WATERS SUPPLYING_____

SAMPLE MARKED:	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8
CHEMICAL ANALYSIS (Parts per Million.)								
Color.								
Odor.								
Reaction.								
Total residue at 230° F.								
Ignited Residue								
Volatile Residue.								
Chlorine.								
Nitrogen as Free Ammonia.								
Albuminoid Ammonia.								
Nitrates.								
Nitrites.								
Earthy Bases calculated.								
Sulphates calculated as SO_3.								
CHARACTER OF WATER.								
BACTERIOLOGICAL ANALYSIS.	W. B. D. PENNIMAN, CHEMIST.							
No. Bacteria per c. c. Ærobic.								
No. Bacteria per c.c. Anærobic								
Colon Bacillus in 1 c. c.,								
Colon Bacillus in 10 c. c.,								
Colon Bacillus (Presumptive test.								
*Too many Bacteria.								
CHARACTER OF WATER.								

Approved:

WM. R. STOKES, BACTERIOLOGIST.

SECRETARY.

Fig. 12.—Report blank for combined chemical and bacteriological examination of water.

ticle 27 of the Code of Public General Laws, title "Crimes and Punishments," subtitle "Water Supply—Pollution of Sources of." This section became a law in 1886, and reads as follows:

Section 429. If any person shall put, or cause to be placed, any dead animal, or part of the carcass of any dead animal, or any decayed or filthy animal or vegetable matter, into any stream, or the tributary of any stream, well, spring, reservoir, pond or other source from which water or ice is drawn, taken or used for drinking or domestic purposes, or shall knowingly suffer any sewage, washings or other offensive matters from any privy, cesspool, factory, trades establishment, slaughter-house, tannery or other place over which he shall have control, to flow therein, or into any drain or pipe communicating therewith, whereby the water supply of any city, town, village, community or household is fouled or rendered unfit for drinking and domestic purposes, he shall be guilty of a misdemeanor, and shall, upon conviction thereof in a court of competent jurisdiction, be fined not more than two hundred dollars for every such offense; and after reasonable notice, not exceeding 15 days, from the State Board of Health, or any local sanitary authority, to discontinue the act whereby such water supply is fouled, a further sum of not more than fifty dollars for every day during which the offense is continued.

Under the provisions of this section about 150 restraining orders have been issued during the year ending November 1, 1908. In the majority of instances merely a trifling inconvenience was caused to the persons restrained. In one case, a distillery which was discharging a very offensive distillery waste into a small stream now pumps the distillery waste several hundred feet away and sprinkles it on the field as a fertilizer, where it has proven to be remarkably effectual.

RECOMMENDATIONS FOR THE FUTURE.

While the laws of Maryland furnish proper power to abate the pollution of streams when once begun, the proper time to prevent pollutions is before they occur. In Massachusetts and Ohio, in Pennsylvania, Montana and many other States, no town or private corporation is permitted to use a water supply without the approval of the State Board of Health, nor is any town permitted to empty sewage into a stream used as a source of drinking water. The use of flowing streams for the disposal of industrial waste and sewage will probably be necessary for several years to come. To meet the situation the State Board of Health should be authorized to set aside certain streams to be used for the disposal of sewage and industrial waste. This should be done with the understanding, however, that such use can only continue as long as no nuisance is produced thereby. The problem of water supplies is a serious one in Maryland, not only for its effect on life, but because it is beginning to have a very marked influence upon the development of property and the value of real estate. In order to adequately deal with the situation the State Board of Health should have a civil engineer attached to the department, and should have competent draftsmen, capable of inspecting watersheds and making proper maps. Aside from the lives to be saved, such a system will have more influence in the development of the resources of the State than any which the State Government has yet devised.

THE SPRINGFIELD STATE HOSPITAL FOR THE INSANE.

THE FOURTH OF A SERIES OF ARTICLES PREPARED FOR THIS JOURNAL ON PSYCHIATRY IN MARYLAND.

THE foundation of this great State institution, formerly known as the Second Hospital for the Insane of the State of Maryland, is so recent that its history is familiar to most of our readers and calls for little comment at this time. We have seen in our review of the psychiatric situation in our State one great hospital for the insane slowly develop during a hundred years from a general hospital within the confines of a young city to a hospital of great magnitude, situated far in the suburbs and containing, all told, a population of nearly a thousand persons; we have seen an offset therefrom grow under the private benevolence of a religious sisterhood into a beautiful suburban hospital of like size; we have seen a highly specialized hospital for the curative care of the insane under wealthy endowment successively by two private citizens advance in its scientific work and its general equipment to the very forefront of modern institutions of healing. It is now our pleasure to chronicle the purposes and successes of the most modern of Maryland psychiatric hospitals, founded a decade ago under abundant State endowment, with a view to embodying the most advanced psychiatric ideas of the twentieth century.

In 1894 the Hon. John Hubner introduced into the Legislature at Annapolis a bill, quickly approved, by which $100,000 was appropriated for this hospital. The reason urged for the hospital was that its establishment would meet the need for accommodation of "more than 1000 insane persons in Maryland then maintained at the public charge in almshouses, jails and private institutions for whom provision would have eventually to be made by the State," to say nothing of future necessities of the insane in the community. After a year's search for an eligible location, on recommendation of a special committee, consisting of Dr. Henry M. Hurd, superintendent of the Johns Hopkins Hospital; Dr. James F. McShane, Health Officer of Baltimore, and Dr. George H. Rohé, then superintendent of the Maryland Hospital for the Insane, the board of managers selected "Springfield," the estate of Hon. Frank Brown, near Sykesville. This fine farm of over 700 acres, presenting "as suitable a site as is possessed by any like institution in America," in a hill country of great beauty, has during 10 years been adapted more and more perfectly to the care of the indigent insane committed to it, until now it stands a model hospital for chronic mental disease, with nearly 1000 inmates.

We have noted in each of the institutions reviewed an embodi-

ment of some special advance in psychiatry—in the old Maryland Hospital the beginnings of non-restraint; in the Sisters' hospital the institution of family groups and of attendance upon even the violent male patients by trained women; in Spring Grove the development of employment as a curative agency. In the hospital now under consideration two great modern psychiatric ideas are embodied—the open-door method and the cottage method, with a subordinate purpose, which it is hoped the State will soon carry completely into effect, of gathering all the indigent insane of the counties and of Baltimore into one or more vast and thoroughly equipped central institutions, supported out of the common tax-rate, in a way suited to their needs and creditable to the good name of the State.

THE OPEN-DOOR METHOD.

This plan for the treatment of the insane without locks and bars or physical restraint of any sort is not a Maryland innovation, having been tried in Scotland and elsewhere many years ago.

Dr. Rohé was an enthusiast in the promotion of the open-door system. He brought to his life-work of psychiatry a mind broadened by a diversity of medical studies. Graduating from the University of Maryland in 1873, he first took up dermatology, which he pursued with great energy and success, writing two textbooks on the subject and filling this professorship in the College of Physicians and Surgeons in Baltimore. Later he held the professorship of materia medica there. Becoming Health Commissioner of Baltimore, he developed in that office an interest in hygiene which had led him some years before to publish a textbook upon the subject which went through three editions. In earlier days he had taken great interest in medical journalism, being editor of the *Medical Chronicle* and associate editor of the *Maryland Practitioner* and of the *Annals of Universal Medical Science.*

After five years in the superintendency of the Maryland Hospital for the Insane, he brought to bear upon the establishment and organization of the Springfield Hospital the full maturity of his keen philosophical intellect, believing most earnestly that the method of non-restraint there introduced was the only proper method for the care and cure of the insane. This view he carried out with great energy and with remarkable success, in spite of severe criticism from many of his associates. In his care of the insane he also attempted to introduce new curative agencies of a surgical and medical nature, making many valuable and interesting studies along these lines.

Unfortunately, his work was cut short after three years' superintendency by his death, which took place in New Orleans in 1899. Dr. Rohé says in one of his annual reports:

"It has been here demonstrated by experience that the unbarred

windows and doors which other officials thought unsuitable for treating acute, disturbed or destructive patients were especially adapted to their care. The night attendants on duty in the wards found that the restless and noisy patients slept much better in the open wards than in single rooms, the single rooms being entirely given up to quiet or convalescent patients. As great a number as 94 per cent. of the patients were sometimes employed in work about the house and the grounds, they being much better in health when thus occupied, and sometimes several nights elapsed without a single dose of sleep-producing medicine being required in the institution."

At the semiannual meeting of the Medical and Chirurgical Faculty of Maryland at Ocean City in September last Dr. J. Clement Clark, superintendent of the Springfield State Hospital, gave his views concerning the open-door treatment as follows:

"Since Phillippe Pinel in 1792 at Bicetre, France, substituted compassion, kindness and justice for chains and cells, the pendulum has been swinging more and more toward non-restraint in the treatment of the insane, until the present age finds us treating them even with open doors. Maryland has been in the advance guard in the cause.

"The late Dr. Richard Gundry at Spring Grove in 1878 introduced many reforms in this direction, and abandoned the use of wristlets, straight-jackets, handcuffs, hobbles, leather muffs, shut-up cribs; the underground cell patients at that time were kept locked in jail-like wards, the quiet as well as the unruly, and exercised only in courts with high, tight-board walls.

"It remained, however, for the late Dr. George H. Rohé to inaugurate a system and to build a hospital in which not only cells, shuttered rooms and window guards are unknown, but also with open doors and without locks. What a transition from the massive prison-like building and barred windows and a cell for nearly every inmate, as of yore!

"We now have detached cottages of architectural beauty, home-like in appearance, with open doors and without any appearance whatever of restraint, and the idea of a cell or dark room, with its terrors, real or imaginary, is entirely banished.

"Dr. Rohé in his second annual report, after the completion of the first group of buildings, says: 'I congratulate the board of managers upon having given to the people of the State of Maryland the most perfect and consistent example of the "open-door" hospital for the insane in the world.'

"I believe this holds good to date; if I am mistaken, I hope someone present will correct me. While all the hospitals for the insane, except for the criminal, have certain wards or cottages open, they all have other wards locked or barred, with shuttered

MEN'S GROUP

rooms and screened window guards. Even the celebrated colony at Gheel, Belgium, where 1600 patients are boarded out, has a closed asylum for 200 patients, with the most prison-like arrangements.

"At Springfield we now have 860 patients of all types of insanity, from the violent maniac to the terminal dement, without a single cottage being locked, and the only restraint used is the occasional use of the rest sheet and a jacket with end of sleeves sewed up. While to manage so many cases of all classes of insanity with open doors and with so little restraint might seem impossible, if you could accompany me through the cottages and see the class of patients, you would not be surprised, for two-thirds of the patients, as is the case in most State hospitals, are cases of terminal dementia, dull and stupid, who would not leave the cottage unless urged to do so.

"One attendant can watch 20 of this class, while a case of mania may take two attendants. We are thus able to concentrate our nursing force on the acute and disturbed, thereby giving them the more careful attention they require.

"Another factor is the employment of all able-bodied patients in out-of-door occupation, whether maniac, melancholiac, paranoiac, imbecile or terminal dement.

"Occupation is now recognized as an important, if not the most important, method of treating the insane. It is surprising what good effect a few hours' work out of doors will have upon a restless patient. The motor excitement and restlessness seem to find outlet thereby, and mind and body act together. The exercise in the open air is beneficial, increasing the appetite, promoting digestion, aiding in action of the kidneys, stimulating the functions of the skin and often relieving insomnia. Medicine can do no more, besides the constant use of medicine is more or less harmful.

"Work does not injure anyone. A great thinker has truly said, 'Every man's task is his life-preserver.' The mental effect of work is also beneficial, helping the patient to fix his attention, aiding memory and creating a healthy interest in his surroundings, thereby forgetting his delusions or, if a melancholiac, his unpardonable sin.

"That we have had no severe accidents among outdoor working patients seem somewhat remarkable when it is known that the male patients work on farm, garden, road, quarry, etc., using at times pitchforks, axes, corn knives, stone hammers and the like.

"That the open-door system and the general employment of patients require a special amount of vigilance from the medical staff and attendants goes without saying. It leads, however, to a careful study of the individual cases by the physicians in charge of the different groups.

"The various and changeable delusions, the physical as well as

WOMEN'S_GROUP

mental condition of the patients must be known, also the former occupation, so that the patients can be placed where there will be the least friction and the best results obtained.

"One homicide and four suicides are the number of fatalities since the hospital was opened in 1896, and during which time 1830 patients of all types of insanity and degree have been treated.

"Regarding escapes: While much doubt was expressed by many alienists about the practicability of the system when the hospital was first built, they have now been dispelled. There have been very few, probably not over a dozen each year, and so far no calamity has happened to any of the escaped patients or to the community.

"The absence of a patient is generally soon discovered, and he or she is often caught before leaving the hospital grounds. However, by an ingenious method inaugurated by the late Dr. Rohé of giving $2 for the return of an escaped patient, they are generally returned by our neighbors. Escapes occur in every institution for the insane, even with the strongest locks and bars and in spite of most careful watching, and it could not be expected that we should be exempt in an open-door hospital.

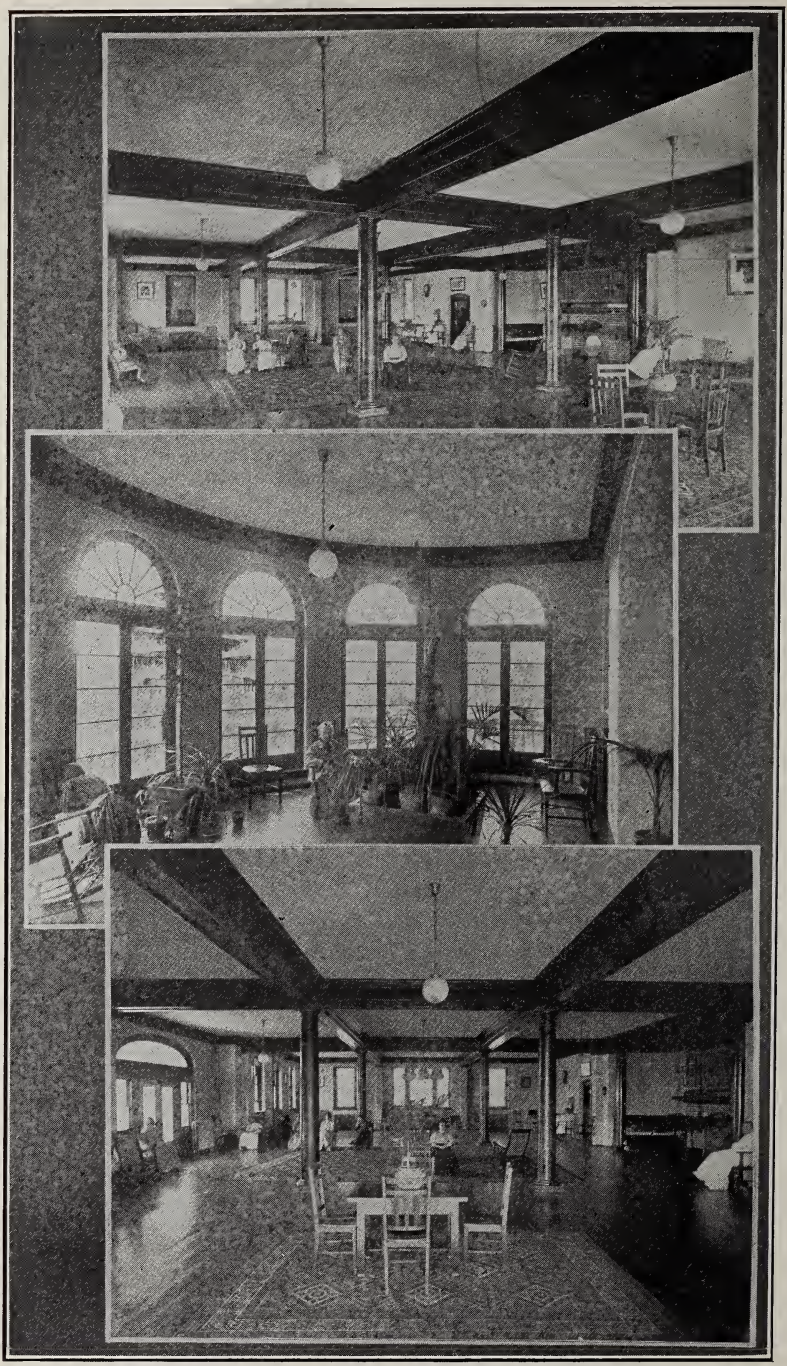
"The mere absence of locks and bars seem to act as a deterrent. It is human nature to want to do that which one is not allowed or that is forbidden. This is especially true with the insane. In the matter of escapes reliance is almost entirely upon the watchfulness of attendants, who are taught, in season and out of season, in training school and every day in the institution or the wards, to be vigilant.

"The open-door treatment of the insane is especially adapted to those inclined to tuberculosis. Dr. Osler says, 'Tuberculosis is the most universal scourge of the human race.' It has been preeminently the scourge of the hospitals for the insane, causing heretofore 25 to 30 per cent. of the deaths.

"Under the open-door treatment and general employment of patients in out-of-door work the average in this hospital has been reduced to 7.7 per cent., or less than that of the general population of the country, and among a people by the very nature of their affliction peculiarly likely to contract it.

"Many patients, especially the melancholiac, have delusions of poisoning, and are suspicious of food, refusing to take enough for the nourishment of their bodies, thereby inviting an invasion by the ubiquitous tubercle bacillus.

"From a humanitarian standpoint the open-door system, therefore, stands for all that is good. Patients are treated as sick people, and not as criminals, and are shown every consideration. The largest liberty possible is given them, often at a personal risk to the patients and to the reputation of the hospital, it being a



DAY ROOM, CONVALESCENT COTTAGE

well-known fact that the less the insane are restrained and their desires interfered with the better. The fact that so much confidence is reposed in them as regards behavior and control (insanity being largely loss of control) has a salutary effect upon the average case, stimulating an effort to regain and a desire to exercise their self-control.

"The watchful eye of the trained attendant, trained in the modern training school, has taken the place of locks, bars and cells. Of course, it requires a greater number of attendants in a system like this than in a locked and barred establishment. But who is the man that would deny this, the most unfortunate class of God's creatures, all that is necessary for their comfort and welfare?"

In the tenth annual report Dr. Clark gives an interesting account of a visit to various European hospitals for the insane, with a comparison of methods of construction, control and management.

In his London letter he refers to, and later in a paper read at the meeting of the American Medico-Psychological Association, held in Boston, gives the full report of, a committee appointed by the London County Council "to consider and report as to erecting an asylum to accommodate 2000 patients on the lines of the Maryland asylum," Springfield.

In his Munich letter a comprehensive description is given of the Munich Psychopathic Hospital and its methods, of which Prof. Emil Kraeplin is medical director, and his account of the celebrated colony at Gheel, Belgium, with its boarding-out system, though brief, is particularly clear.

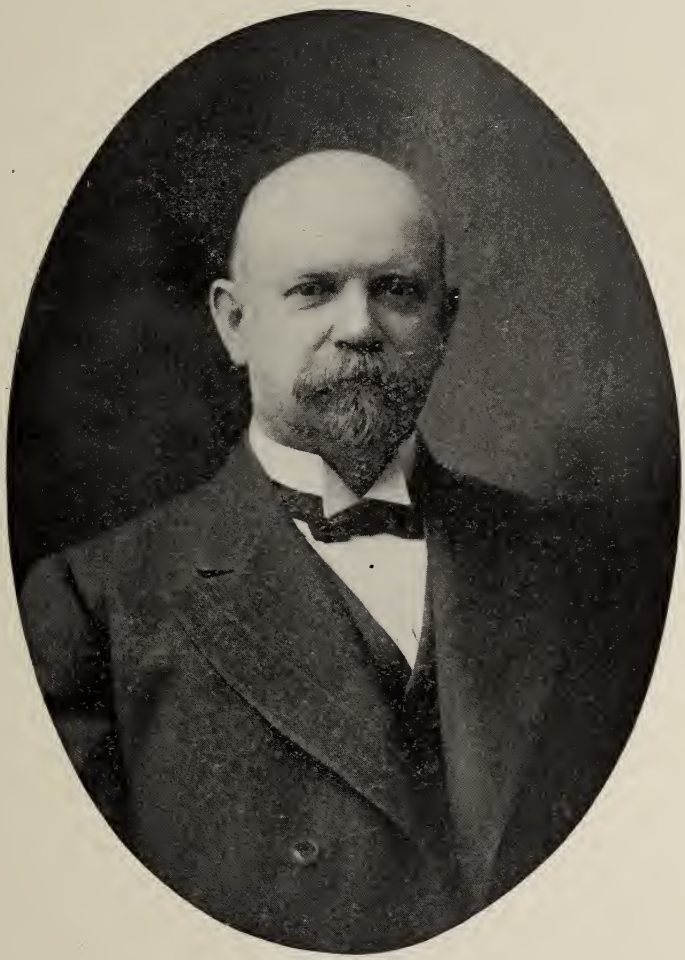
In the last biennial report of the Springfield Hospital, October 1, 1907, Dr. Clark reports much activity among the members of the staff in the study of psychiatry as presented clinically in the institution. Some 30 papers, covering different portions of the psychiatric field, with reviews of psychiatric progress in other hospitals, were presented by members of the staff at the staff meetings. This in itself is a sufficient proof that Springfield is not simply an asylum, but a hospital for the study of insanity.

In speaking of the Training School for Nurses, organized in 1901, Dr. Clark says: "The usual lectures and demonstrations have been given by the staff of physicians and the two supervisors to the members of the Training School, and constant effort is being made to improve the standard of work done in this school and elevate the profession of nursing. While nursing the insane is not on as high a plane as general nursing, it should be. The nursing and care of the insane calls for a special degree of skill, tact and training. In many cases of insanity the recovery of the patient depends as much on the care and treatment they receive at the hands of the nurse or attendant as upon medical skill. A kind word, an interest shown, a confidence reposed and a properly

directed conversation does much to promote the recovery of the insane. The most important thing for the successful operation of a hospital for the insane is the securing and keeping of good, conscientious, kind-hearted nurses and attendants. In the founding of this school (the first in a hospital for the insane in Maryland) much has been done to promote the best interests of the unfortunate patients committed to our care."

For the proper study of the causes of insanity and their removal he believes that the State should assume entire control of the institutions in which the insane are housed. Alcohol he estimates as a direct cause of insanity in from 15 to 20 per cent. of cases. As alcoholic parents produce more than one-half of the idiotic children in the State, and as about one-third of the living children of such parents suffer from epilepsy, he thinks it but right that the State should take deep interest in the regulation of the use of this drug, as the State already does concerning opium and cocaine. He strongly recommends the building of a psychopathic hospital and psychopathic wards (exactly what our Phipps has since done), where patients could be brought for early treatment without being legally certified as insane, and held for diagnosis and treatment, just as in the general hospitals. If such patients were likely to become chronic, they would be sent to the State hospitals, otherwise they could be treated and returned convalescent to their homes without the stigma of having entered an asylum. If such a hospital were erected in Baltimore, he thinks, and if separate provision were made for the colored and criminal insane, and if a system of entire State care of the insane and feeble-minded were provided, Maryland would be in the advance guard in the care of the insane and defectives.

Springfield Hospital was at first intended rather for the chronic insane of the State, cases of dementia, etc. This design is at present not carried out, and cases of all sorts are assigned to it by the Board of Charities and Corrections of Baltimore and from other parts of the State. Its population is coming rapidly to consist of the same class of patients as that of the other great hospitals for the insane, there being a tendency always, of course, to the assembling in these hospitals of a continually increasing proportion of the hopelessly insane, whose care is largely a matter of feeding and housing and whose presence is a hindrance rather than an incentive to psychiatric progress.



J. CLEMENT CLARK, M.D.,
Superintendent Springfield State Hospital for the Insane

THE COUNTRY DOCTOR.

By Brice W. Goldsborough, M.D.

PRESIDENT'S ADDRESS AT THE SEMI-ANNUAL MEETING OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND AT OCEAN CITY, MD., SEPTEMBER 16, 1908.

When our secretary wrote to me that I was to deliver an address at this meeting I was sure he was asking of me what was not expected by the Faculty, as we came here for short hours of labor, for an opportunity to enjoy ourselves and know each other better, for genuine pleasure and recreation, with all unnecessary accessories eliminated. Among these especially are presidents' addresses.

During the past five months since you did me the honor to elect me to this position I have only been able to visit two societies, owing to the fact that many of the county societies of Maryland had held their meetings, and few have summer sessions. These were the Washington and Frederick county societies, which held a joint meeting at Braddock Heights August 26. This meeting was largely attended, and I am frank to confess that the character of the papers delivered were a surprise to me, because they measured up in every respect to the papers at our annual meeting. I am glad to report that I think there will exist that unanimity and harmony of action among members of these societies so essential to the maintenance of that position of dignity and influence to which the profession is entitled.

I had made arrangements to meet the Anne Arundel County Society in June at the home of Dr. Brayshaw at Glen Burnie. Unfortunately, the death of Mrs. Brayshaw from typhoid fever prevented this meeting. Dr. Brayshaw has for many years taken an active part in the work, not only of the Faculty, but also of the county medical society. Each year Dr. and Mrs. Brayshaw entertained most hospitably at their home, not only the county medical society, but also many of the most prominent members of our Faculty. They have added in no small way to the pleasure and recreation of our profession. For these reasons, as for many others, I hope that some member of the Faculty will introduce a resolution tendering to our bereaved brother a suitable expression of our sympathy. I feel sure such action would be appreciated by Dr. Brayshaw and it may in some small degree help to soften the force of the blow which has fallen upon him. On life's journey we cannot pass each other, as do ships that pass in the night, without signal or word of greeting, and this action will show to the world that, busy men as we are, we are still alive to the bond of sympathy which should exist between us in time of distress.

It gives me great pleasure to notify the society that we have given out the contract, and work on the new building has begun. We confidently hope to dedicate this building at the annual meet-

ing next April. As far as it is in my power I am urging the secretaries of each of the county societies to collect as much as possible from the members of the societies so that we may have on our building when it is completed a small indebtedness. Dr. Linthicum, the vice-president of our society and the chairman of the building committee, will make a report in full of the present state of our finances. I would take this opportunity to urge all members of the Faculty who have not contributed to do so. This is our building, and I cannot but feel that every member must desire to be a participant in this work.

The matter of the State care of the insane is one which concerns each one of us, as this far-reaching and humanitarian work must appeal to all of us. The State is showing a readiness to fulfil one of its highest duties and obligations, namely, the care of the insane, and has taken the preliminary steps to commence this work. By our active co-operation and personal influence we, too, can become participants in this crusade, which seeks to ameliorate the condition and environment of those afflicted ones who cannot help themselves and to assist in the completion and consummation of what promises now to be the most important and up-to-date movement made in Maryland, barring one.

The one exception is the prevention and cure of tuberculosis. I may be optimistic, but I have the faith now to believe that we are going to grapple with this plague with such enthusiasm and with such scientific and conscientious grasp of the subject that it is not impossible that in the years to come it will be an exceedingly rare disease, if not entirely obliterated. The education of the people is the very first step, and Maryland has certainly placed herself in the very front ranks by the splendid work which has been done in this direction in the last few years under the leadership of Dr. W. H. Welch, Dr. John S. Fulton, Dr. Price and others. The people are anxious to be taught. As a rule, they are more than willing to follow every direction given by the physician. But, strange as it may seem, there are some physicians who are not only careless of reporting their cases or carrying out the recommendations of the State Board, but are disposed to belittle and ridicule the movement. I would advocate a very rigid enforcement of the law concerning the doctors as well as the people, and if they fail in carrying out the provisions of the law they should be promptly dealt with. A few arrests, showing the earnestness and sincerity of the State Board of Health, will remedy all this trouble. One county health officer, who is particularly noted for his efficiency, said to me that he had a great many death certificates, reporting deaths from tuberculosis, which cases, either from indifference or carelessness, had never been reported to him.

That we can cure a large number of cases of tuberculosis in its early stages is now known to be true, and with proper diet and outdoor treatment, and with the administration of tuberculin—

which Trudeau says he considers the most valuable therapeutic agent we have—we can confidently hold out the hope of recovery to those unfortunates when in former years there seemed to be none. When possible the treatment in sanitaria is always to be preferred, and in this line, too, Maryland will have done her whole duty when she has completed the various buildings now in process of erection. In this work I urge, with all the emphasis possible, the most active co-operation of each member of this society. It means more for the future welfare of the human race, more to banish those weeks and months of awful suffering, with the one sad ending, than anything undertaken by our profession for the relief of countless thousands.

All this may seem a reiteration of what all of you know so well, but only by constant repetition of a great truth of a splendid cause can we instill the people with faith and inspire the workers to constant and loyal effort. I take this occasion to express my appreciation of the stand which our Governor has taken in the matter, and I hope the members of this Faculty will give him every support in their power, because we should welcome with approval every worker in this cause, and particularly a high official who is inspired with a real desire to help the suffering and save the people from the terrors of the white plague, and perhaps it would be wise for some resolution to be offered at this meeting endorsing the action of the Governor, expressing our approval and assuring him of our hearty co-operation.

In considering upon what topic I should address you it came to my mind that it would be pertinent for me at this time to say something of the country doctor.

I believe that my election was due to the fact that I belonged to this class of the fraternity, and a desire on the part of the Faculty to honor this body of physicians rather than because of any merit I possessed. I had commenced to outline some remarks upon the subject when I received an address from my friend, Dr. N. A. Powell,* professor of surgery at the University of Toronto, with whom I spent some happy weeks in Canada last summer. It was so admirable, so full of beautiful sentiment, with such a masterly handling of the subject, that in the remarks I will make I have copied quite liberally from his address.

The past quarter of a century has seen a marvelous change in the country doctor in Maryland. The erection of the various provincial hospitals, with their staff of specialists from the various schools in Baltimore, have given them a far wider knowledge of their profession and enabled them to cope successfully with many cases which in days gone by would have been beyond their skill.

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*Everyone should read this address, which was published in the *Canadian Journal of Medicine and Surgery* for March, 1908.

The beginning of the life of the country doctor in Maryland differs in many respects from that of his city brother. He does not have to wait so long for practice, and if he is a man earnest in his work and faithful in his attendance, as he usually is, he soon has around him a coterie of friends and patients. But the various problems which daily confront him have to be settled without any outside aid, with no help from the specialist and among people who are watching to see how he will acquit himself, and oftentimes in so critical a way that he cannot but feel exceedingly uncomfortable. But all this struggle makes him self-reliant and develops in him a determination to grapple each problem in a way to solve it satisfactorily to his patient and a credit to himself. There is one particular, however, in which the city and country doctor do agree, and they can shake hands on this proposition at every hour of the day. The first novelty of caring for the sick folk has worn off and our doctor is winning his way to the confidence of the community. But of late a strange unrest has come. His first diagnosis of his own disease is "a subacute nostalgia." Very soon his symptoms point in quite another direction. It is not his own home he is longing for, but the new one he is to fill. He makes many calls that do not go down on his visiting list. Before very long someone goes driving with him. The most widely spread of all maladies is upon him. You gentlemen who study vital statistics are well aware that more fall in love than in war. But the doctor does not fall in love; he walks right in with his eyes open, guided by that instrument of precision—the heart. He does not circle around and back-pedal on his affections till all social and monetary advantages are fully considered. He does not need to, for right here his professional advantages show to good account. Lawyers see the worst side of humanity, ministers the best side, while physicians see it just as it is. With the special knowledge of women and his common sense it would require a positive genius to make a blunder. He makes no mistake, and the very best girl of them all agrees to call him George instead of Doctor. With womanly intuition she reads him through and through, knowing full well that it is a terrible endorsation of a man to marry him. When he speaks she answers as the maiden in the land of the Dakotahs answered Hiawatha: "I will follow you, my husband." To the physician overtaxed in mind and body, struggling for his daily bread and weighed down with the awful responsibilities of his calling, a gentle, loving wife is the greatest of all good gifts. To all fair things she will lend a fairer charm, and from the home she will help him to create will come the purity, the hope and the courage with which from this time on he fights the battle of life. To her will be justly due full half the success and far more than that proportion of all the happiness of his life. As the years roll on, if he is the man we think he is, he makes a

place for himself in the life of the community. Granting that the personal equation is the chief factor in the result, greater than any help or hindrance, it is still true that the silent forces of his calling, those that ride with him over all the roads, that sit with him at all bedsides, that are with him in his down-lying and his up-rising—all these work upon mind and heart and body, making him day by day a better man or a worse one. Perhaps he has a few enemies—just enough to enable him to escape the biblical warning, "Woe unto you when all men speak well of you." He is not perfect nor the ideal doctor, for to be this he would need the wisdom of Solomon and the patience of Job. Still, he is worth our study and our praise, for he is fulfilling that motto of the German poet which says that with self-renunciation we begin to live. He may not preach the truth, but he lives it, and that is a thousand times better. Ruskin teaches us the dignity of service, Dickens the divinity of kindness, George Eliot the supremacy of duty, Browning the splendid optimism that comes from unfaltering trust in God, and Lowell the need to give ourselves to others if we would truly help them. All these we find mingled in and making up the life of the country doctor. If to live and labor and suffer for others, rising above self and selfish ends, is to live truly, then, reverently be it said, he is following, with a guidance he does not claim, in the footsteps of that one Physician who knew all the truth, who was and is our Lord and our Divine Exemplar. "Ever since from lips that spake as never man spake came the blessed words that gave to sightless eyes a vision of the blessed sunlight, to ears that have no sound the music of birds and of the human voice, that restored strength to withered limbs and brought back life itself to a frame it had forsaken, the healing art has been Christlike and holy." Its charities may be, and often are, of that diviner quality taught by Him who gave Himself for others.

The country doctor is no quitter. He plays the game not simply while the light lasts, but through all the hours of darkness when the shadows flee and hope revives. He is the best friend a community can have. He is the confidant of lovers and helps to make up their quarrels. He brings together again the husband and wife when differences have separated them. He is father confessor to half the country, and keeps his tryst with knightly honor. His sympathy is deep and genuine, and is not worn upon his coat-sleeve, and is expressed not in weeping with those who weep, but in devising relief to those who suffer in heart and body. Far from being blunted by long contact with pain, his sympathy grows keener with each year of added experience. The old farmer in the gospel, according to Whitcomb Riley, says:

" 'Doc, you 'pear so spry, jes' write me that receit
You have fer bein' happy by, fer that'd shorely beat
Your medicine,' says I. And quick as scat Doc turned and writ
And handed me, 'Go he'p the sick, and put your heart in it.' "

The glory of optimism pervades his life. Tell him of Max Nordau's statement that our age is stamped with the stigma of degeneration, and he will laugh you to scorn. In every sickroom he carries the inspiration of cheery, hopeful presence. Fortunately, he finds lots and lots of the kindliest humor even in that world of pain and sickness in which he dwells. He is apt to believe that if the good Lord had not meant us to be mirthful He would never let so many funny things happen. Father Faber once said, "There is no greater help to a religious life than a keen sense of the ludicrous." Such a divine gift softens the asperities of life and lessens the annoyances of practice. As anatomists you know how close to the fountain of tears are to be found the ripple of laughter that run around the eyes. So sorrow and mirth go close linked all through life. Is it a case of sciatica? The old man says that "a ball of hot wind keeps running from his hinch to his hock." And the Irish woman, who wishes to save his feelings and cannot report improvement, says, "Doctor, I have given little Patsy all your medicine and he is no worse thin."

Night calls and bad roads have long been recognized as chief factors in a country doctor's misery. When worn out and half sick a call at bedtime or later comes with a sense of personal affront, and its bearer is looked upon as one far gone from original righteousness. Whitcomb Riley knew this when he wrote:

"May be dead of winter—makes no odds to Doc;
He's got to face the weather ef it takes the hide off,
'Cause he'll not lie out of goin' and p'tend he's sick hisse'f like some
'At I could name 'at folks might send for and they'd never come."

However, we are beginning to feel that we are going to be delivered from the bad roads we have had to endure in the past. There has been a marked improvement in the last 15 years, and, with the vision of the new State roads, we may hope that much of our trouble in this respect will be over. Of such roads Mark Twain once said that if he ever went to the place of eternal torment he wanted to go over such a road, because he would then be glad when he reached his destination. The unutterable, bottomless, clinging mud!—but I cannot speak of this subject with composure. Its memories are too painful and overcomes me.

More than any other the country doctor is a man who does his own thinking. "In this world," said the greatest of German writers, "there are few voices and many echoes." Few men really think. Many think they are thinking, but all have opinions. You had them early in life. Your first opinion was probably that you were sorry you had come here.

Country practice offers no asylum for the ignorant. The doctor

there goes right to the front to be known and read of all men, and, what is more important, of all women. The people among whom he dwells belong to the great middle class, intelligent people, capable of forming correct judgments. Before such judges he stands, and he can shirk no responsibility, since sharp eyes follow him everywhere, observing and discerning what manner of man he is. Trained by the life he leads, he gains self-reliance, presence of mind, fertility of resource and sagacity. Thus he becomes a self-contained man, capable, skilful and safe.

Such is the work; now what of its rewards? In 10 or 20 years a very large sum can be accumulated upon our ledgers. From 75 to 90 per cent. of the money earned in the country is good, or will be some day—in the spring or perhaps after threshing. While with health a modest competency is assured, there is absolute security from any sudden attack of affluence. But there are rewards which come in daily and are not to be expressed with the dollar-mark before them. It may be the country doctor's opportunity to feel the happiness of the patriarch of old: "The blessing of him that was ready to perish came upon me, and I caused the widow's heart to sing for joy."

Having endeavored to outline something of the life of a country doctor of Maryland, of his trials and miseries, of his successes and of his work, let me ask what is his final reward? Our question goes to those who have attained the prize, and this is what they might well say:

"On life's uneven road
Our willing hands have eased our brother's load:
One forehead smoothed, one pang of torture less,
One peaceful hour a sufferer's couch to bless;
The smile brought back to fever's parching lips,
The light restored to reason in eclipse,
Life's treasure rescued like a burning brand
Snatched from the dread destroyer's wasteful hand.

"Such were our simple records; day by day
For gains like these we wore our lives away,
In toilsome paths our daily bread we sought,
But bread from Heaven attending angels brought.
Pain was our teacher speaking to the heart,
Mother of pity, nurse of pitying art;
Our lesson learned, we reached the peaceful shore
Where the pale sufferer asks our aid no more—
These gracious words our welcome, our reward:
'Ye served your brothers, ye have served your Lord.'"

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D.

THE OPERATIVE TREATMENT OF RECENT FRACTURES.

Since the year 1867, when Lister proved that a compound fracture should be so treated that the wound would heal without suppuration and the bone be firmly united, the treatment of simple fractures by open operation has been an attractive subject for surgical study. Much has been written on the subject, but there is still a need for investigation concerning the best method to employ in certain fractures.

The first operations were confined to the silver-wire suture of the fractured patella, an operation really introduced and popularized by Lister himself, although the suture had been done in the Middle Ages. This explains the great vogue of silver wire for fixation.

The present state of the question leaves much to be decided in the individual case. The best knowledge of the subject may be summarized in the statement that whenever a good functional result cannot be obtained by closed methods without considerable deformity, an operation should be done, if the general physical condition of the patient is not a contraindication. To arrive at this conclusion it is necessary that the fracture be most carefully reduced and fixed by closed methods and watched by physical examination and the X-ray, in order to determine the condition of the bone or bones involved. When such examination shows incomplete reduction or deformity in position, then an open operation should be done. Watson Cheyne (*British Medical Journal,* January, 1907) insists on the importance of complete reduction for the proper healing of fractures. He points out the obstacles to reduction and the difficulties in retaining the fragments in position. He advises frequent inspection and X-ray examination, recommending early operation whenever reduction is imperfect or the position is not well retained.

Bloodgood (*Progressive Medicine,* December, 1905-1907) has pointed out that the importance of perfect reduction and absence of deformity increases as the site of the fracture approaches a joint. Considerable overlapping may exist in a healed fracture of the shaft of a long bone without any interference with function, but a slight alteration of the position of joint surfaces brings on burden deformities in the entire limb and frequently leads to serious disablement.

The *shaft of the femur* is an exception. In oblique fractures of the upper third of the femur the fragments are widely separated and the powerful muscles make persistent extension almost

impossible. Open operation is therefore distinctly indicated. Huntington (*Annals of Surgery,* September, 1908) makes a strong plea for immediate operation in fracture of the shaft of the femur. He says that the results of conservative treatment generally accepted as tolerable or satisfactory are far from either, and decides that the results of conservative treatment are not comparable with those of immediate operation. The serious difficulties and disadvantages of the late operation for the cure of unsatisfactory thigh fractures are pointed out and made a potent argument for the immediate open treatment. This paper, therefore, is an important contribution; it contains many references to authorities, and gives in detail the author's method of operating for these fractures.

Huntington's position, however, seems to me extreme. There are some fractures of the shaft of the femur, more especially those near the middle of the bone, that have been successfully treated by the closed method. In this location it is possible to prevent rotation of the fragments and get union in the correct axis. When this union is firm, although there may be overriding, with appreciable shortening, the leg is perfectly useful and the result satisfactory in all ways. Huntington makes traction on the limb at operation by yarn rolls. He fixes the pelvis by surrounding the thigh and groin on both sides, and by another yarn roll fastened around the ankle makes traction through a pulley. I feel that this lower pull must strain the ligaments of the knee to a great degree, and that the consequent possibility of relaxed knee-joint could be avoided by making the traction from just above the condyles.

Fracture of the neck of the femur is debatable. As the importance of the abducted position for coaptation of the fragments has become more generally known, and also the certainty with which the position is retained in the Whitman dressing, the number of cases of non-union is decreasing. This fracture was recently discussed from the viewpoints of the operative and conservative methods of treatment by Flint and by Ashhurst and Newell (*Annals of Surgery,* November, 1908). The most important advantage of the open method here is the opportunity given to suture the torn capsule. The value of this feature was shown by Fritz König (*Archiv. f. Klin. Chir.,* 1905). The suture of the capsule improves the circulation in the head fragment. My own experience in two cases of subcapitallis fracture has been so good with the closed abduction fixation that I feel the method should be given a fair trial in all cases. One of these patients was a woman of 69 and the other a boy of 16. Both have perfect functional results, and the latter has an apparently perfect anatomical result, as shown by the X-ray.

The method of fixing the fragments in the open treatment will vary according to the character of the bone and the break. Martin (*Surgery, Gynecology and Obstetrics,* Vol. III) gives the indications for the use of the different materials. The following is an abstract of Martin's conclusions:

For comminuted fracture of the shaft of a long bone, silver-wire wrapping, supplemented by the use of screws or silver plates.

For oblique fracture, two screws placed at right angle to the line of fracture and long enough to pass completely through the bone. In transverse fracture of the shaft the silver plate fixed by several screws is most serviceable.

For fracture involving joint surfaces, catgut or wire suture is best.

Martin used successfully a heavy silver wire held by shot in a case of intercondylar fracture. Huntington is a firm advocate of Arbuthnot Lane's staples. The Hansemann perforated silver plate, with the short screws devised by Dr. Halsted, is a valuable method of fixation. The original plate was used with long screws projecting from the wound, but with the short screws the entire apparatus is buried in the soft parts. This plate is especially valuable whenever there is a tendency to wide displacement or rotation of the fragments. It has a great advantage over wrapping with wire or other material in that it may be applied with less violence to the soft parts and less stripping of the bone. Ivory pegs and screws made from animal bone have been used by some surgeons. Absorbability is their only advantage over metal instruments, and this is offset by their brittleness and the difficulties of sterilization and preservation.

The open treatment of a fracture is not a royal road to successful results. All of the accessory measures used to secure a useful limb by the closed method are necessary here. Massage, passive movement, careful fixation and dressing with regard to good circulation are all required, and only by the most careful scrutiny and attention to detail will a good result be obtained. In undertaking the treatment of a simple (closed) fracture by open incision the surgeon assumes an extra risk and increases his responsibility to the patient. The operation must never be performed except in the best surroundings and after careful preparation. This is never an emergency operation. The surgeon must be in position to command absolute asepsis; nowhere is infection more disastrous. Well-trained assistants and a complete supply of suitable instruments are essential. Bungling assistants or lack of proper mechanical aids are serious hindrances. Among the important instruments required, in addition to the screws, etc., already mentioned, are strong clamps for holding the bone during fixation, drills of many sizes and screws whose diameter is adjusted to the caliber of the drill holes. The long fixation screws should be almost cylindrical, with the thread cut to the head. The usefulness of silver wire is quite limited. Its rigidity is really of very little value in retaining fragments in position, and its brittleness or softness makes it break easily either at the time of suturing or later. Heavy chromicized catgut, from which all unchanged chromic acid has been washed, can be obtained perfectly sterile and non-irritating. This catgut can be used in most cases where silver wire would be serviceable, and has the advantage of being absorbable.

WILLIAM H. WELCH, M.D.,
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DOUGLAS H. THOMAS, JR. HON. ISAAC LOBE STRAUS.

Under the Direction of the Secretary of the State Board of Health

RELATION OF MILK TO DISEASE.

By Marshall Langton Price, M.D.,

ABSTRACT OF AN ADDRESS DELIVERED BEFORE THE STATE DAIRYMAN'S ASSOCIATION OF MARYLAND AT THE MEETING FOR ORGANIZATION, DECEMBER 15, 1908.

THE paper which I have been asked to present upon this subject must necessarily be very brief in its scope. I shall only touch very briefly upon the problems of nutrition connected with milk in their relation to disease, and confine myself largely to the remarkable capacity possessed by milk to act as a medium in transmitting those vegetable parasites, which we commonly speak of as bacteria, or germs, from the body of one person to that of another, and there set up by their growth a condition of disease.

The Problem of Fomites.—As you are well aware, the parasites which cause disease in one body do not pass to another body through any occult influence, or even through the air, as was once popularly supposed. Infection must pass through as definite channels as those which control the course of a stream. In the great majority of cases the virus containing the discharged bacteria is transferred to some object, animate or inanimate, through which it reaches the person who becomes infected. If we leave out of consideration yellow fever, malaria and bubonic plague, in which the infective bacteria are transferred from the sick to the well through a biting insect, the means of infection may be limited to air, fomites and food. By fomites we mean wearing apparel, bedding, handkerchiefs and similar articles. We can say now, with some degree of assurance, that infection through the air is very rare, infection through fomites rare and infection through food common. The great bulk of all infections is through food. I, of course, include in the term "food" water and other articles of drink. My main object in these introductory remarks is to point out that milk occupies a special place in its dangerous property of transmitting disease, for while fomites, water and air are *passive* vehicles of infection, milk stands practically alone as an *active* vehicle of infection. By this I mean that if a certain number of bacteria are introduced into water, the air or lodged upon clothing the number will not increase as time passes, but tend rather to diminish. On the other hand, if the same number of bacteria are

introduced into milk they always begin to increase, and under favorable conditions to an enormous degree.

On this account water containing only a very small number of bacteria may be taken without producing disease; while, on the other hand, milk inoculated with the same number of bacteria soon becomes the inevitable cause of disease if swallowed by a susceptible person. The reason for this fact is that milk is one of the best known culture materials known, and is commonly used in our laboratories for the artificial growth of the germs of disease. For these reasons you can well see the extreme care required in handling milk to avoid the transmission of disease.

Milk is our most valuable food and also our most dangerous food. It is possible to handle milk without causing danger, but we can say the same of dynamite. The same reasons for care in the handling of the one apply to the other. Neither should be handled excepting by persons of intelligence and skill, well acquainted with the dangers involved and with the best means of overcoming them. The handling of milk should be classed with the dangerous occupations and subjected to the same regulations as are other dangerous occupations. An association such as you propose to form has not only the value of mutual association and improvement, but can, I believe, do more for the welfare of the general public than any other organization in the State through raising the standards of knowledge and intelligence among its members, and it is to assure you of all possible assistance I can give you along these lines which is the real object of this paper.

Direct Causes of the Infection of Milk.—It is, of course, beyond the scope of this paper to give at length any full account of the ways in which milk can become infected during handling. The means of infection may, however, be divided roughly into two classes—the direct and the indirect. Milk is usually directly infected by some person who handles it with hands upon which the discharges of a sick person have in some way lodged. This individual may not himself have any disease, or need not necessarily be nursing anyone who is sick. More commonly, however, someone who handles the milk himself has the disease.

Indirect Causes of the Infection of Milk.—Indirect infection of milk is quite common. Most frequently washing the cans in water from infected sources causes the inoculation of the milk. In other cases, flies or dust introduce the virus into the milk or cans. In other cases the bottles have been used in a sickroom and returned without washing and scalding. In a household in which typhoid fever, for instance, is present there can be no absolute safety until the patient is wholly recovered. All the ordinary means of protecting the milk may be used, and those handling the milk may never enter the sickroom. In these cases the disease may be conveyed to the kitchen through the bed linen, or the well used for washing the cans may become infected. Often the greatest vigilance will not avail to protect the milk from infection, and the health authorities are compelled to forbid the sale of milk as long as a case of typhoid is present upon the premises.

Protection of Milk.—The protection of milk from infection requires intelligence and care. Milks are safe in direct proportion to the amount of care employed in their production and handling. Almost always the

milk which is found to be a source of disease is what we may speak of as a "dirty" milk. Any milk should be classed as a dirty milk which contains more than 500,000 bacteria per c. c. In these milks giving high bacterial counts we often find miscellaneous dirt of every description, and we can be sure that conditions are favorable for the inoculation with the germs of disease whenever it breaks out on the farm.

Unrecognized Cases.—It is important to remember that in all infectious diseases mild and unrecognized cases tend to predominate. Thus cases of typhoid fever occur where there are no marked evidences of sickness. Slight fever lasting a few days or a week, with some digestive disorder, may be the only symptoms of an infection, and such cases are almost invariably unrecognized unless conditions exist giving rise to a special investigation. It is also well known that persons who are exposed to diphtheria may carry the bacilli in their throats for days, or even weeks, without contracting the disease themselves. These facts lead me to speak of one of the most difficult problems of the health official as well as of the dairyman—the so-called "carrier" cases of typhoid fever. In a certain number of persons who have had typhoid fever the bacilli remain in the system after convalescence. This is usually due to a chronic gall-bladder inflammation or to a typhoid cystitis. Under these conditions typhoid bacilli may persist for weeks or months, and in a few instances for years.

The Problem of Carrier Cases.—The problem of carrier cases is one of the most difficult with which the health officer has to contend. The proverbial elephant is a mere trifle in comparison with a carrier case of typhoid fever. It is manifestly impossible to subject such individuals to perpetual quarantine. An appeal to the conscience of such a person not to follow an occupation involving their fellow-creatures in danger is about all that can be done. Needless to say the dairy business is not to be recommended. One of the most famous of these carrier cases was a cook, who left a trail of destruction about her wherever she went. At one time a pantry maid in Baltimore was found to have caused 18 cases of typhoid fever. Fortunately for the community, and also for the peace of mind of the health officer, such cases are comparatively rare.

Pasteurization.—I am making a few remarks about pasteurization in connection with the prevention of the transmission of disease by milk merely because it would seem a necessary part of the subject. I am making these remarks as non-committal as possible, because there are great differences of opinion as to the value of pasteurization, and the whole subject is not yet to be regarded as settled. In the common form of commercial pasteurization the milk is subjected for anywhere from a few seconds to a minute to a varying degree of heat. After such a heating the milk has great keeping properties—that is, it will not sour. I am not prepared to go into the effects of thorough sterilization, but as far as commercial pasteurization is concerned I regard the value as commercial only. The effect of such instantaneous heating is to destroy or inhibit the lactic acid bacilli which cause souring without materially affecting the majority of the bacteria of disease. The lactic acid bacilli are in themselves harmless, and the souring

of milk a conservative process, inasmuch as it prevents persons from using a dirty milk which has been kept at a temperature favorable to bacterial growth. It has also been shown that a milk which has been pasteurized and subsequently infected with the virus of disease is more dangerous than unpasteurized milk. These are, I think, the main objections to pasteurization. Pasteurization is only to be regarded as a substitute for cleanliness in producing and handling milk; but, on the other hand, I believe that a dirty pasteurized milk is superior to a dirty raw milk, and too frequently milk of the latter class is what we must use.

I will conclude my remarks with a brief mention of some of the diseases conveyed by milk with more or less frequency, and give you some figures, or, rather, estimates, showing the importance of the subject.

Diseases Conveyed by Milk.—The diseases conveyed by milk with greater or lesser frequency are tuberculosis, typhoid fever, scarlet fever, dysentery and diphtheria.

Typhoid Fever.—It is only in recent years that sanitarians generally have come to realize the great frequency with which typhoid fever is transmitted by milk. In fact, as water supplies are generally being improved, infected milk is becoming a close second to infected water in causing typhoid fever. The characteristic of a milk epidemic is the sudden onset and the small number of persons affected, aside from those using the milk supply in question. Milk epidemics have not been infrequent in Maryland. One very striking epidemic was studied by my predecessor, Dr. Fulton, some years ago in Elkton. The records of the State Board of Health contain an account of another striking epidemic occurring at Port Deposit. Twenty-three cases occurred in the town, of which 5 were in the infected town, and of the remaining 14, 13 used the infected milk and one was a stranger who came to the town with the disease. A striking feature of this epidemic was the fact that in an institution where cases developed there were two sources of milk, and all of the inmates who used the second supply escaped infection. You probably recall the Hampden-Woodberry epidemic of 1905.

We have estimated from the sanitary inspection of institutions and towns during epidemics that about 20 per cent., or one-fifth, of the cases of typhoid fever in Maryland are due to infected milk. During the year 1905 there were 476 deaths from typhoid fever in Maryland. Allowing the same ratio to hold, there were about 95 deaths from typhoid fever due to infected milk and about 950 cases of sickness in Maryland during 1905.

Diphtheria and Scarlet Fever.—It is almost impossible to calculate the number of cases of these diseases caused by milk, but we have from other sources accounts of distinct and striking epidemics. It is likewise impossible to enumerate the number of cases of tuberculosis and dysentery caused by infected milk. I would place the number of deaths caused by drinking infected milk in Maryland at about 2000 annually out of a total number of deaths placed in round numbers at about 20,000; that is, I would credit infected milk with about 10 per cent. of the annual number of deaths. These figures, as well as the remainder of this paper, is only to be considered as a brief abstract of a very important subject, and I look to your association to work out the solution of these and other important problems in connection with milk bearing on the welfare of the people of Maryland.

JAMES BOSLEY, M.D.,
Commissioner.

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Asst. Commissioner.

THOS. L. RICHARDSON, M.D.,
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Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director

This Department is Under the Direction of the Commissioner of Health

WATER-BORNE TYPHOID.

IN a former communication the various causes of typhoid fever were mentioned and the prevention of this disease was described. It is important to analyze some of these causes in more detail, and the vexed question of the relation of drinking water to typhoid fever at once presents itself.

In the first place, we have the astonishing fact that the average death-rate from typhoid fever in American cities is over three times as great as that of European cities. Whipple in his book on "Typhoid Fever" gives the death-rate per 100,000 of inhabitants for 322 American cities. In 1905 the average taken from all these cities was 34 deaths per 100,000, while the average taken from 10 European cities was 11. This is a perfectly fair comparison, since he included many towns which had a small rate of 8 or 10 deaths.

The explanation of this great contrast, so unfavorable to our American cities, is simple, for all of the large continental and English cities obtain their drinking water from filtration plants or pure mountain streams, lakes or rivers. On the other hand, most of the American municipalities mentioned use unfiltered, polluted water, often passing through densely populated suburban districts and receiving the intestinal discharges from cottages, villages and towns. The conditions become serious, indeed, when cities give such death-rates from typhoid fever as 182, 181, 126, 107, 106 and 101, as cited in Whipple's statistics.

The drinking water of cities usually becomes infected in two ways. In smaller cities it may be due to a sudden and accidental pollution of a supply which is usually good. The epidemics in Plymouth, Pa.; Ithaca, Scranton, Butler and Lowell are all examples of this kind of infection.

These epidemics are usually explosive in character, and affect at times as many as 10 per cent. of the inhabitants.

In larger cities the typhoid arising from water is due to a constant contamination of the water by numerous privies or sewer pipes, and while the

outbreak is not as sudden and dramatic and the toll not as severe, yet often from 300 to 500 cases will develop yearly for every 100,000 of inhabitants.

Whipple cites numerous examples of water subject to constant contamination in which the typhoid death-rate in the cities were very high. As a typical example he mentions, among others, the example of Pittsburg. This city takes its drinking water from the Allegheny and the Monongahela rivers, and both supplies are contaminated by the sewage of large communities. This city has had typhoid death-rates varying from 68 to 143 per 100,000 of inhabitants, but it is now installing a filtration plant, which will greatly lessen this scourge. Other examples might be cited to show the great influence of sewage-polluted water in producing typhoid fever, but they are probably all too familiar to need recapitulation.

The isolation of the typhoid bacillus from water is a difficult technical problem, and this final proof is not usually attempted by sanitary bacteriol-

LOCATION OF TYPHOID FEVER CASES, YEAR 1906

ogists. It has been isolated, however, by several men in this country and Europe, and the colon bacillus, a sign of intestinal pollution, is frequently present in most of our large unprotected municipal water supplies.

The influence of filtration in lessening the typhoid death-rate is an additional proof of the relation of water to typhoid fever in most of our large cities, and as an example of this fact the experience of Hamburg might be considered, since many of these conditions correspond to conditions present in Baltimore, and the results may aid us in solving our own problem.

This city formerly had a typhoid death-rate varying from 30 to 90 per 100,000. This meant that from 300 to 900 cases of typhoid fever developed every year for every 100,000 persons in the city, since the fatality in this disease is about 10 per cent. Since the installation of a sand filter for the polluted Elbe in 1894 the death-rate has dropped to about 6 per 100,000.

WATER-BORNE TYPHOID IN BALTIMORE.

In order to arrive at any conclusions concerning the relation of water to typhoid fever in Baltimore it is first necessary to examine the typhoid death-rate.

In the exhaustive report on "Typhoid Fever for 1904 to 1907" by Dr. Jones in the "Annual Report of the Sub-department of Health of Baltimore for 1907" the following table will show that Baltimore is slightly above the average typhoid death-rate of the registration cities. If we add the death-rates of 4.8, 3.3 and 5.4 for malaria, it makes our typhoid death-rate about 42.3, 39.0 and 39.7 per 100,000 for 1904, 1905 and 1906. This is justifiable, since most, if not all, of the deaths from so-called malaria must really be attributed to typhoid fever. This rate about corresponds to that of such a city as Cleveland. This city obtained water from a polluted lake, but since using a power supply its death-rate from typhoid fever has dropped to 14 to 20 per 100,000 of inhabitants.

In the report of "Mortality Statistics" for 1906 one finds that the average death-rate per 100,000 of population in the registration cities was:

1904	35.1
1905	30.1
1906	34.2

(This leaves out, of course, malarial fever.)
During those years Baltimore showed:

1904	37.5
1905	35.7
1906	34.3

which is from .1 to 5.6 per 100,000 above the average. While in the rest of this paper I confine myself entirely to cases of typhoid fever, I would like at this place to call your attention to the fact that during the above-mentioned years there were in Baltimore the following death-rates due to malaria:

1904	4.8
1905	3.3
1906	5.4

most of which, if not all, should be added to our typhoid death-rate, because certainly we have but very few deaths due to the malarial organism, and certainly not from 16 to 30 deaths each year.

The results of the bacteriological examinations of the city water supply also show intestinal pollution, and the résumé of the examinations since 1896 is as follows:

RESULTS OF BACTERIOLOGICAL EXAMINATION OF THE DRINKING WATER SINCE 1896.

The bacteriological examination of the city drinking water was begun in 1896 and has continued to the present time. It has mainly consisted in the routine enumeration of the bacteria present in 1 c. c. and the test for the presence of the colon or intestinal bacillus. Certain studies of the special types of saprophytic and pathogenic or disease-producing bacteria have also been made, but these will be considered later. Fifty-one examinations

LOCATION OF TYPHOID FEVER CASES, YEAR 1907

of rivers and streams were made and the colon bacillus was detected 23 times, or in 45 per cent. of instances, and in 40 examinations of the reservoirs the colon bacillus was only found in 37 per cent. of cases. In 92 specimens of the tap water this organism was found in 29 per cent. of the tests.

The gradual diminution of colon bacilli is caused by the sedimentation which takes place in the reservoir and pipes, and the averages of the bacterial counts taken from this series shows the influence of sedimentation even better. The average number of bacteria per c. c. from the rivers and streams was 17,200, while that from 168 samples of tap water was only 600.

EXAMINATION OF THE TAP WATER.

In 629 examinations of tap water from various wards of the city the colon bacillus was isolated 251 times, or in 39 per cent. of cases. In 168 bacterial counts made from 1896 to 1902, inclusive, the average count was only 600 bacteria per c. c., but in 353 examinations made in 1907 this average increased to 1300. The highest count was 9000, but we have not a few records of 5000 and 6000 bacteria per c. c. In summing up the condition of the Baltimore drinking water it cannot be said that it is as pure as the mountain lakes or rivers, such as the Lake of Zurich or the rivers Rhone and Isar. Here the bacteria vary from 75 to 500. It can be classed with the drinking water still used in some of our large cities in the United States, where the water is obtained from the surface rivers passing through more or less densely inhabited areas.

The Ohio River, supplying Cincinnati, ranged between 2000 and 10,000 bacteria per c. c., and the Croton tap water of New York seems to usually fluctuate between 200 to 1500 bacteria per c. c. Baltimore seems to be about midway between these two conditions.

ISOLATION OF SPECIAL TYPES OF BACTERIA.

We have isolated various saprophytic bacteria from the water. These usually corresponded in the cultural characteristics with those described by Wright in the Schuylkill River and Fuller and Johnson in the Ohio River at Cincinnati. The various non-pathogenic fermentative types of intestinal bacteria described by Ford have also been isolated. The bacillus alkaligenes, a fecal organism, has also been frequently isolated.

Various types of pathogenic bacteria have also been found. These include organisms of the hog-cholera group, corresponding in their cultural characteristics to the paratyphoid bacillus. The bacillus proteus and the sewage streptococcus have also been obtained. We have also isolated an organism on several occasions resembling the bacillus pyocyaneus. This organism is pathogenic for mice, white rats and guinea-pigs, and is of special interest, since the bacillus pyocyaneus is capable at times of producing dysentery.

We have made frequent attempts to isolate the typhoid bacillus, having studied about 500 cultures from the water for this purpose. As yet we have been unsuccessful in this quest, although we have scraped filters, used Starkey tubes and attempted to precipitate the organism by the use of immune serum. In all, we have made 1211 complete examinations of the

water supply, beginning at the small tributaries, including the rivers and reservoirs and ending at the distribution of the water through the city taps.

ANALYSIS OF OTHER CAUSES OF TYPHOID FEVER.

In addition to the comparatively high death-rate from typhoid fever and the presence of intestinal organisms in the water supply, we can arrive at the truth by a process of exclusion, and this has been done by Dr. Jones in the report mentioned above. He mentions 10 possible sources of typhoid fever in Baltimore, and he analyzes each cause in detail. The first is bathing in polluted water, especially in Spring Gardens. Mr. Beadenkoff, chairman of the Free Bath Commission, analyzed 40 cases of typhoid fever and found that none of these had bathed in polluted water. The second cause is infection from the 75,000 cesspits distributed over the entire city. Contamination or infection spread by overflowing cesspits must be comparatively rare, and although we admit the transportation of typhoid bacilli from the soiled wings and legs of flies coming from these cesspits and contaminating the foods in the kitchen, yet this is not a factor from December to May, since the plague of flies is abated during these months. The fourth cause is importation, but Dr. Jones has shown that out of 2500 cases investigated 2011 had not been out of the city even for one day during the four weeks previous to the illness. The fifth cause, or contact, seems to be excluded as an extensive cause by the fact that out of 3800 houses investigated in which typhoid fever had occurred only 294 had two cases or more. The disease, therefore, rarely spreads to a second individual in the house. It is also admitted that carrier cases are relatively infrequent, and these can usually be detected as outbreaks in institutions or several cases in one house. The sixth cause, or non-freezing hydrants in yards, can also be excluded as a general cause, although the pollution by seepage or overflow of cesspits or by household waste among the careless may occasionally produce this disease. The seventh cause, or polluted drinking wells, can only act as a local factor. These are quite numerous in the Thirteenth ward, or the mill district, but this cannot account for the universal distribution of the disease. The eighth cause, or raw foods, such as lettuce, celery and oysters, cannot be considered as a general cause for typhoid throughout the entire city. The vegetables coming from the "Neck", and over which the contents of cesspits are spread, are probably mainly distributed over the southern portion of the city. These vegetables frequently contain intestinal bacteria, but investigations of these vegetables, which are obtained from the depots in the northern part of the city, indicate that they are relatively free from intestinal pollution. The ninth cause is milk, and these milk epidemics are usually explosive in character. They can be traced to certain local areas along the route of the milkman who distributes the infected milk, and we are able in most instances to detect these outbreaks from the reports of the health wardens and to check them by exclusion of the milk from the city. The one apparently general cause still remains, and that is the water. It is known from the reports of Dr. Price that cases of typhoid fever occur on the Jones Falls watersheds and on the Gunpowder watersheds, and the water is drunk unboiled by the majority of the citizens. It is impossible to say just how much typhoid comes from the drinking water, but if one-half or one-fourth of the cases are derived from this source it

is certainly profitable to adopt the simple measure of boiling the water to prevent these cases. Even if we deny that the water has been a factor in the spread of typhoid fever in the past, yet the experience in the year of 1907 certainly points to this as a general cause. The average death-rate for the three preceding years was 33 per 100,000, but in 1907 it jumped to 40.7, excluding deaths from malaria. The number of reported cases exceeded those of 1904 by 516, and the distribution was general throughout the city. By comparing the typhoid map for 1906 with that of 1907 the milk epidemic of 1906 can be easily recognized in the northern part of the city. The amount of rainfall was excessive during this year, and these facts all point to the water as the chief offender in 1907. Boiling the water will not prevent all of the typhoid fever, but we think it will prevent many cases. The remedy is, therefore, obvious: boil the drinking water and you will erect the most important defense against the invasion of the enemy which can be adopted. WM. ROYAL STOKES.

COUNTY SOCIETY MEETINGS.

CARROLL COUNTY MEDICAL SOCIETY.

THE Carroll County Medical Society held a very interesting meeting at the Hotel Westminster on Wednesday, December 9, at which the members present were Dr. Clotworthy Birnie, president; Dr. Charles R. Foutz, secretary and treasurer; Drs. M. D. Norris, D. B. Sprecher, T. J. Coonan, James H. Billingslea, W. E. Gaver, E. M. Sullivan, L. K. Woodward, H. M. Fitzhugh, S. L. Bare, J. S. Zeigler, C. H. Diller, George H. Brown, J. Sterling Geatty. A business session was held from 11 till 12 o'clock, Dr. C. Birnie presiding. The members then dined together in the private dining-room of the Westminster. Then an afternoon session was held, at which interesting and instructive papers were read as follows: "Early Diagnosis of Tuberculosis," by Dr. L. K. Woodward; "Sanitary and Hygienic Treatment of Tuberculosis," by Dr. H. M. Fitzhugh; "Medical Treatment of Tuberculosis," by Dr. George H. Brown. Dr. A. P. Herring, secretary of the State Lunacy Commission, was present and delivered an interesting address on "State Care of the Insane," after which a resolution was adopted endorsing State care. Dr. Herring, who had visited the County Home and the jail of this county, spoke in terms of high praise of the manner in which these institutions are conducted. Ex-Judge James A. C. Bond and Dr. Frank T. Shaw were present at the afternoon session.

CHARLES R. FOUTZ, Secretary.

FREDERICK COUNTY MEDICAL SOCIETY.

THE following program for post-graduate study has been announced by the Frederick County Medical Society for the regular quarterly meeting to be held on Wednesday, January 13, 1909, at 2.30 P. M., in the Y. M. C. A. Building, Frederick, Md.:

1. "Anatomy and Physiology of Ear," Dr. James A. Long.
2. "The Early Diagnosis and Treatment of Acute Catarrhal and Purulent Otitis Media," Dr. Nicodemus.

3. "The Relation of Nasopharyngeal Disease and Obstruction to Disease of the Ear," Dr. Hendrix.

4. "The Symptomatology and Diagnosis of Acute Mastoiditis," Dr. C. T. Sappington.

Discussion—2, 3, 4—Drs. Fahrney, Riggs, West, Birely. Later meetings will be held February 10, March 10, April 14 and May 12. Programs will be published in the JOURNAL.

HOWARD COUNTY MEDICAL SOCIETY.

THE Howard County Medical Society held its regular meeting at the Howard House, Ellicott City, Md., Tuesday, December 8. The subject for the month, "Complications of the Liver," was discussed. Dr. Williams of Elkridge spoke before the society on the "Affections of the Gall-bladder and Gall-stones;" Dr. Gambrill read a paper on "Cirrhosis of the Liver." Papers were also read by Drs. Miller and Tumbleson. Dr. Fort discussed the plans and arrangements for a general public meeting for January on the State care of the insane. Dr. Herring, secretary of the Lunacy Board, will be invited, and an enthusiastic meeting is expected. Our State should no longer delay in making proper provision for our indigent insane and see to it that they are properly cared for. The Howard County Society fully endorses the views of Dr. Herring in his endeavors for a State appropriation for large, well-equipped and separate asylums for white and colored indigent insane.

F. O. MILLER, Secretary.

PRINCE GEORGE COUNTY MEDICAL SOCIETY.

THE Prince George County Medical Society met at Queen's, Washington, D. C., on Saturday, December 12, at 1 o'clock. Those present were Drs. Cronmiller, G. W. Latimer, McMillan, Bennett, Griffith, Etienne, Nally, Taylor and McDonnell, members, and Dr. Thomas Claytor of Washington and Dr. A. P. Herring of Baltimore, visitors. Dr. Claytor addressed the society on "Diet in Typhoid Fever," advocating a more liberal diet than generally used. Dr. Herring addressed the society on "State Care of the Insane." The society adopted a resolution endorsing State care of the insane, as recommended by Dr. Herring. Officers were elected as follows: President, S. M. McMillan; vice-president, Harry Nally; treasurer, A. C. Etienne; secretary, H. B. McDonnell; censors, Drs. Taylor, Willis and Latimer.

H. B. MCDONNELL, Secretary.

TALBOT COUNTY MEDICAL ASSOCIATION.

THE Talbot County Medical Association held its annual meeting in Easton, Md., December 3, Dr. James A. Stevens in the chair. In the absence of Dr. J. B. Merritt, Dr. Charles F. Davidson was appointed secretary pro tem. Election of officers for the ensuing year being in order, Dr. Charles H. Rose of Cordova was elected president; Dr. Charles F. Davidson of Easton, first vice-president; Dr. W. S. Seymour of Trappe, second vice-president; Dr. S. Denny Willson of Easton, secretary; Dr. C. M. Stelle of Cordova, censor for three years; Dr. S. C. Trippe of Royal Oak, censor for one year to succeed Dr. Rose, who resigned to become president,

Dr. Joseph Ross of Trappe being the hold-over censor. Dr. J. A. Stevens was elected alternate to delegate (Dr. P. L. Travers) to the Medical and Chirurgical Faculty (House of Delegates). Dr. A. P. Herring of Baltimore read a paper advocating the State care of the dependent insane, which was unanimously adopted.

Book Reviews.

GLIMPSES OF MEDICAL EUROPE. By R. L. Thompson, M.D. Philadelphia: J. B. Lippincott Company. 1908.

All tales of travel, medical or otherwise, are interesting. Some are more interesting than others, and some are both interesting and instructive. If we have not visited the scenes described, we are glad to have the opportunity of learning about them from one who has been there and who gives us his impressions at first hand. If we are familiar with the places and conditions, it is of even greater interest to read the opinions and experiences of others who have been over the same ground as ourselves. In accordance with the above axioms, we find this little book of Dr. Thompson's both interesting and instructive. Going off the beaten track, he describes the hospitals and clinics of Norway, Denmark and Sweden, which are but little known to American physicians and students, and, according to the author's views, ought to be more frequently included in the itinerary of medical men when traveling in Europe.

From Scandinavia to Russia is a natural step, but the author seemed to feel the depressing influence of Russian customs, and was chiefly concerned with getting away from the country. The attractions of Berlin are related in some detail, and here we come to familiar ground and the names of persons and institutions with which we are acquainted. He gives a list of the private courses given by various instructors and their cost, which will be useful for one who intends to study in Berlin.

Vienna comes in for a short chapter, which, indeed, is entitled to more extended notice, for *"Es giebt nur ein Wien."*

Paris has joys that appeal to the author, both in a medical way and in other directions, whilst London seems to depress him and to add a yellow tinge to his remarks. Personally, the reviewer thinks London one of the most attractive of all the cities of Europe, whilst Paris is not very much to his taste.

The little book is well worthy of a wide circulation.

ABDOMINAL HERNIA: ITS DIAGNOSIS AND TREATMENT. By W. B. DeGarmo, M.D. New York: J. B. Lippincott Company.

This is an excellent book, recording the ripe experience of a man whose conclusions are based on the statistics of 1400 operated cases. He shows everywhere the familiarity with his subject that comes only with diligent study and assiduous application.

Our experience and study has been so limited to the operative treatment of hernia that the amount of space in this book given to mechanical methods is quite surprising. Our ultimate results with hernia operations have been

so good that we believe most patients should be operated on. The contra-indications to surgical cure mentioned in this book are really very few, and, summarized, mean that only in patients who are hopelessly invalided in some other way is the operation ill advised.

This does not mean that Dr. DeGarmo does not favor operation, nor that this feature of hernia is slighted. On the contrary, the descriptions of the operations are the most delightful part of this very enjoyable book. For inguinal hernia he prefers the Bassini operation, with transplantation of the cord, but describes the other modern operations. It is refreshing to see the present-day Halsted operation correctly quoted. In discussing direct inguinal hernia he quotes Bloodgood on the rectus transplantation and reproduces Halsted's illustration of the method of utilizing the split rectus sheath. The references are unusually full and up to date.

The book closes with a tabulation of the 1411 personal operations for abdominal hernia—the experience of the author. Everyone interested in hernia—surgeon, physician and student—will receive valuable instruction by carefully reading Dr. DeGarmo's book. A. McG.

Gynecology and Abdominal Surgery. Edited by Howard A. Kelly, M.D., F.R.C.S.(Hon.Edin), Professor of Gynecologic Surgery at the Johns Hopkins University; Gynecologist to the Johns Hopkins Hospital; and Charles P. Noble, M.D., S.D., Clinical Professor of Gynecology at the Woman's Medical College, Philadelphia. Illustrated by Hermann Becker, Max Broedel and others. Complete in two volumes. Volume II. Cloth, $8 net. W. B. Saunders Company, Philadelphia. 1908.

In our review of the first volume we commented on the bold conception of the work, as an invasion of the field of general abdominal surgery by the gynecologist. In the present volume the initial chapter of 80 pages discusses with great minuteness the complications of all sorts which may follow operations, often undoing all the good work of the surgeon.

The remaining operations of the abdomen are then taken up in successive chapters; those of special feminine import by leading gynecological surgeons; those appertaining equally to the male by general surgeons of note. There are some exceptions to this rule. Diseases of the female breast are treated by Bloodgood; of the appendix by Kelly and Hurdon; of the spleen and of the ureter by Kelly; of the kidney by Noble and Anspach. It is not fitting that we should attempt criticism of the methods and teachings of these masters of surgery. They represent the highest American attainment. The illustrations and publisher's work are very fine, as we expected they would be.

The alliance between the gynecologist and the general surgeon which begot the book is but tentative. At any rate it directs attention to the remarkable recent progress of once-despised Gynecology.

Text-Book of Organic Chemistry for Medical Students. By Dr. G. v. Bunge, translated with additions by R. H. Aders Plimmer, D.Sc.(Lond.) Longmans, Green & Co., New York. 1907. Price $2.

This text-book is written with the hope that it may bring organic chemistry into somewhat closer touch with physiological chemistry, that realm

in which the next important advance in therapeutics must be made. The subject is necessarily difficult, but in the volume before us it is simplified as much as possible, only those points which are most important are treated and special attention is drawn to their relations to practical medicine. Based on the able work of Professor von Bunge, it has been brought by the translator into accord with the special needs of English medical students, and such changes in the arrangement of the matter have been made as are necessary to harmonize it with the latest chemical research.

A Manual of Obstetrical Technique As Applied in Private Practice, with a Chapter on Abortion, Premature Labor and Curettage. By Joseph Browne Cooke, M.D., Adjunct Professor of Obstetrics in the New York Polyclinic Medical School and Hospital. Illustrated. Sixth edition. Enlarged and fully revised. J. B. Lippincott Company, Philadelphia. 1908. Price $1.50.

This little book reached its fourth edition in two years. It is designed for private practitioners whose patients have trained nurses, and sets forth the obstetrical details which are applicable to such cases.

Therapeutics: Its Principles and Practice. By Horatio C. Wood, M.D., Emeritus Professor of Materia Medica and Therapeutics in the University of Pennsylvania. Thoroughly revised and rewritten by Horatio C. Wood, Jr., M.D., Associate Professor of Pharmacology in the University of Pennsylvania. Fourteenth edition. J. B. Lippincott Co., Philadelphia.

The many editions of this standard reference book are a fair index of the progress of clinical therapeutics during the past quarter of a century in America. In launching his book for the first time upon its course, Dr. Wood, senior, in 1882 thought to introduce into therapeutics a new and more stable method, in which empiricism, or, if we prefer, clinical experience, should be based upon and steadied by laboratory experimentation upon the lower animals. He held that the differences of result observed after administration to these humbler beings were to be ascribed not to any difference in action of the doing, but to individual variations in resistance, and in many cases to peculiar susceptibilities to the action of one of the several ingredients of the drug.

Upon this basis Dr. Wood built a system, if not perfect, yet far more secure than had hitherto been attained. From edition to edition he has added, with the assistance of his son, such therapeutic elements as have been found reliable in the same way.

In the volume before us clinical therapeutics has been brought thoroughly up to date. In the completely rewritten chapter on cathartics a beginning has been made of a new grouping of this class of drugs according to the laxative principles, chemically considered, which underlie their efficiency.

In the chapter upon diuretics the theory of ions and its bearing upon therapeutic action has been thoughtfully discussed. Opsonic therapy has received suitable notice. Everywhere a due consideration for the practical needs of the physician as a healer at the bedside has been maintained, no matter how profoundly philosophical the discussion may have become. A

valuable feature of the work is the appending of a bibliography to the discussion of each group of drugs.

Africa via Lisbon. By (the late) Nicholas Senn, M.D. Chicago: Press of American Medical Association.

To dine with kings and queens, yet so to maintain republican self-respect as to refuse to obsequiously *"kuss die hand"* (as a German peasant woman would say), is but the just meed of a great American surgeon. From the Lisbon International Medical Congress Dr. Senn passed down the east coast of Africa to Cape Colony in order to see and observe for himself the diseases which prevail in that ancient continent, now for the first time opening its secrets to the whole wide world. It was the desire of a truly scientific mind to learn at first hand that which has heretofore reached us through English and German writers only.

Many of our readers will be astonished to learn in following, by the aid of this modest paper-clad pamphlet, the great surgeon in his travels that the wilds of Africa which we contemplated with awe in our childhood are now dotted with great endowed or Government hospitals—English, German and Portuguese—equipped with trained nurses and Roentgen rays, and eager to drive into the open native bacilli hordes which, since the decay of early Egyptian medicine, have preyed undisturbed there upon the unhappy denizen of primeval forest shades.

Dr. Senn does not express it so beautifully, because the poetic mind shuns surgery, but he tells a most interesting story of his walks through those far-off hospitals.

PAMPHLETS RECEIVED.

The Battle of the Microbes. Published by the Merchants' Association of New York.

Splenectomy. By George Ben Johnston, M.D. Reprinted from *Annals of Surgery,* July, 1908.

The Meniere Symptom-Complex. By S. P. Goodhart, Ph.B., M.D. Reprinted from *Medical Review of Reviews,* July, 1908.

Transitory Disturbances of Consciousness in Epileptics. By S. P. Goodhart, Ph.B., M.D. Reprinted from *American Medicine,* September, 1908.

Rectal Diseases. By Lewis H. Adler, Jr., M.D. Read at the Tenth Annual Meeting of the American Proctologic Society, 1908.

Operative Treatment of Internal Hemorrhoids. Including a Consideration of the After-treatment as well as the Sequelae which Occasionally Ensue. By Lewis H. Adler, Jr., M.D. Reprinted from the *Pennsylvania Medical Journal,* November, 1908.

Treatment of Enlarged Prostate. By Albert Vander Veer, M.D. Reprinted from *Medical Review of Reviews,* October, 1908.

Transactions of the Sixth Annual Conference of State and Territorial Health Officers with the United States Public Health and Marine Hospital Service. Government Printing Office, Washington.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D., *Editor*

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BALTIMORE, JANUARY, 1909

TUBERCULOSIS FIRST ISOLATED.

IT was in Bayview Asylum, apparently, that the establishment of a separate hospital department for the isolation of this disease was first attempted in Maryland, possibly first in the United States. An account of this effort is given in a reprint entitled "Prophylactic Therapeutics as Applied to Tubercular Sputum," by Frank Dyer Sanger, M.D., of Baltimore, excerpts from which appear below. In this reprint he stated that for the past two years he had maintained in the general hospital at Bayview a ward in which none but tubercular patients were treated. He had previously attempted, with the assistance of Dr. Haines, to gather together into one department of the hospital all of the tuberculous cases sheltered there, but on account of the arrangement of the wards he had been unable to succeed in this. The article of Dr. Sanger, originally published in the MARYLAND MEDICAL JOURNAL July 23, 1892, and read before the Medical and Surgical Society of Baltimore on May 26 of the same year, is very interesting reading, in that it gives us an idea of the enormous progress which has been made in intelligent treatment of consumption during these last 16 years. Sixteen years ago (as Dr. Sanger says) we did not seem to be much in advance of the Assyrian astrologers, who had recorded in their cuneiform inscriptions a prayer against "the expectoration of the consumptive, which noxiously prostrates."

The co-operative farm scheme predicted by Dr. Sanger is now a fact at Eudowood. The instruction of the public as to the precautions which should be taken by the relatives and friends of the

patient, strongly urged in the article, is now well under way. The panic, which he and others had thought unlikely, has taken form so mildly that many of us wish it had been a little more intense. The gathering of all consumptive patients into special wards is now a matter of course in all well-conducted hospitals which receive them at all, and at Bayview and elsewhere hospital buildings, equipped solely for their care, have been constructed. "It has been established that tuberculosis is an infectious disease and that the infectious principle is the tubercle bacillus, and that the discharges, chiefly the sputum, convey the disease from individual to individual, and yet there does not seem to be a disposition on the part of the profession in this country to make an application of these facts. Hardly any attention has been paid to the subject by American writers, and we have only to look about our hospitals and talk with the general practitioner to be convinced that the subject is scarcely thought of." This was sixteen years ago! Truly the twentieth century has opened well!

* * *

[Abstracts from Dr. Sanger's article on "Prophylactic Therapeutics as Applied to Tubercular Sputum," read before the seven hundred and forty-third meeting of the Medical and Surgical Society of Baltimore May 26, 1892, and published in the MARYLAND MEDICAL JOURNAL July 23, 1892.]

In hospitals the requirements of thorough disinfection are easily met. In those institutions where many tubercular cases are treated the question of isolation of such cases naturally arises. I believe, so far as it is practicable, it should be done, for while the necessity of isolation diminishes in proportion to the degree of cleanliness, still the safety of persons whose lungs have been injured by previous diseases would be more absolute if tubercular patients were treated in separate wards.

In large hospitals grouping of patients is desirable; then, too, the persistent cough of the consumptive patient, especially at night, is objectionable in the general ward.

A feeble attempt was made by Dr. Haines and myself to keep tuberculous cases together in the hospital department of Bayview Asylum, but the arrangement of the wards is such that it is impossible to separate the cases properly.

However, one ward has been maintained in that institution for the past two years in which none but tubercular patients are

treated. This is, I believe, the first attempt that has been made in Baltimore to carry out what will some day become universal practice.

The treatment of tubercular patients in sanitaria especially adapted for the work is no longer an experiment in this country. One has only to familiarize himself with the work accomplished at Saranac Lake, N. Y.; at Asheville, N. C.; at Colorado Springs, and by a camping-out organization, the headquarters of which is at Santa Fe, N. M., to be convinced of the beneficence of these institutions. They are not, however, for the poor.

The establishment of co-operative farm schemes near our large cities, where infected individuals may be supported or given the opportunity of self-support, which will not only be a direct benefit to the individual, but will obviate the necessity of his working in crowded factories, shops and counting-rooms, and thus endangering his associates, belongs, I believe, to the philanthropy and progress of the near future.

To Dr. Edward O. Shakespeare much credit is due for his able appeal to the Association of American Physicians. In a paper read before that body May, 1890, he says: "Do we not admit that tuberculosis is an infectious disease? Then let us so declare. Do we believe that this disease rarely, if ever, has a truly hereditary origin? Then let us not hesitate to publish that belief. Do we acknowledge that the tuberculous, especially in the active stages of the affection, throw off in the sputa or in other discharges the infectious principle of the disease, and thereby jeopardize, whether little or much, the safety of the healthy? Then let us boldly publish our knowledge for the benefit of the public who are not in possession of it. Are we convinced that the meat and milk of tuberculous animals often contain the infectious poison and produce the disease in the healthy consumer? Then let us without further delay strenuously and unitedly demand the vigorous inspection of the meat and milk supply and prompt destruction of affected animals. Do we agree that habitations become infected with virulent sputum from the consumptive and constitute a danger to other inmates? Then let us insist upon thorough disinfection and immediate destruction of that dangerous matter. Is it probable that an injured condition of the lungs or of other exposed organs increases the risk of development of tuberculosis after exposure to the infection? Then let us prevent many a case of consumption by insisting upon the removal of phthisical patients from the general medical wards of hospitals. Are we convinced that the unfortunate subject of tuberculosis constitutes a migrating center of possible infection? Then let us warmly advocate the establishment of special consumption hospitals."

One of the highest functions of the medical profession is the

education of the public upon the great question of sanitation. We have no institute of preventive medicine, our Government giving us no financial encouragement, but the medical profession of this country constitutes a working body for whose indomitable energy and untiring industry the task of eradicating tuberculosis from the face of the earth is not too great.

"Should the sources of infection be only partially removed," says Mr. Tyndall, "the marked diminution of a malady which now destroys more human beings than all other infectious diseases taken together will, as pointed out by Cornet, be our exceeding great reward."

ARMY MEDICAL RESERVE CORPS.

At last the United States Government has awakened from its Rip Van Winkle sleep of 125 years to a sense of its responsibility as regards the health of the men enlisted in its armies in war time. Scientists have paved the way and made uninhabitable regions habitable. Still the Government has been slow in learning its lesson. The loss of life during the Spanish-American War was a disgrace to any civilized country, 14 men succumbing to disease to every one by bullet. Proper organization of the medical corps, with provision for its expansion in war, would have eliminated this awful sacrifice of life. With this idea in view the War Department has created an Army Medical Reserve Corps, the members of which are selected from the foremost medical men of the country. They are commissioned as first lieutenants, which commissions in time of peace are more or less honorary, in so far as no salary is attached thereto. Should these physicians be called on for active service, it is planned to give them the highest rank provided in the volunteer service, *i. e.,* colonel, lieutenant-colonel and major.

As explained briefly by Surgeon-General O'Reilly of the United States Army, the plan is "simply extension of many moves already made for having an informal unofficial reserve in which it would be easy to draft in time of war."

The authorities are to be commended for this change of policy. With a large and properly organized Medical Reserve Corps past blunders will be eliminated.

X-RAY STERILITY.

THE somewhat startling announcement, three years ago, that the Roentgen ray, among its freak effects, produced sterility in those who handled it extensively, was so far-reaching in its therapeutic and social importance that careful confirmation was demanded. This is now offered in the second volume of *Transactions of the American Association of Genito-Urinary Surgeons,* 1907 (Edward L. Keyes, Jr., 109 E. 34th street, New York, secretary), in a paper by F. Tilden Brown and Alfred T. Osgood, who originally discovered the condition.

Of the 13 cases traced since then, nine were in 1907 still destitute of spermatozoa, two were apparently restored to the normal and two showed a few spermatozoa on long search.

The patients, none of them, experienced anything abnormal in coition then or now, nor did they worry about the fact revealed by the microscope.

It was shown in the discussion that a leaden apron for the testes gave protection against this influence of the rays.

In one case a patient who showed but sparse spermatozoa left begot a child. Dr. Osgood thought the ray might, perhaps, relieve "certain obvious conditions of married life."

Reflecting on the above theme, it occurs to us that, short of destruction, the ray may be found useful as a testicular tonic, improving the quality and vigor of the spermatozoa. The lessening of their number, moreover, might improve the type of those produced.

In this discovery, too, may lie the solution of the vexed problem of sterilizing criminals and mental defectives—those individuals whom all thinkers believe should be prevented from propagating their kind, but whom no one likes to lay surgical hands on. With the electrocution chair in honorable use, Roentgen-ray sterilization would not seem repulsive.

Ovaries also call for similar observation. Do they cease to ovulate under the ray? If so, many social and therapeutic problems may be solved for us.

Correspondence.

THE FIFTH PAN-AMERICAN MEDICAL CONGRESS.

The Fifth Pan-American Medical Congress was held in Guatemala City, Central America, from the 5th to the 10th of August, 1908. Seventeen countries were represented by delegates, besides Guatemala. There were eight representatives from the United States, consisting of Dr. Gregory M. Guiteras of the Marine Hospital Service, who was the official delegate; Drs. Gordon King of New Orleans, W. J. Jepson and Frank J. Murphy of Sioux City, Lewis Schooler of Des Moines, Iowa; Samuel Sherwell of Brooklyn, N. Y.; W. W. Pennell of Mt. Vernon, Ohio, and Randolph Winslow of Baltimore, Md.

This company embarked on the steamship Preston of the United Fruit Co. at New Orleans on July 30, and reached Puerto Barrios, Guatemala, early in the morning of August 4, having stopped en route at Belize, an orderly English colony, consisting almost entirely of negro inhabitants. From Puerto Barrios, which is a miserable straggling village, a narrow-gauge railroad extends to the capital, a distance of 195 miles; but, owing to the difficult mountain grades, the journey is not made in one day, and we had to lay over at Zacapa, and did not reach the city until 2 P. M. of the next day. This is the land of the *mañana,* and it is not worth while to be in a hurry. We were cordially welcomed on our arrival and every attention shown us. Official and social functions were unceasing during our entire stay in the country, and were of a very varied character. Every night opera tickets were sent us, excepting when banquets or balls were given in our honor.

The first session of the congress was held on August 6 in the splendid hall of the Medical School. Two hundred and seven persons registered as members of the congress, but not more than 25 of these came from outside countries, the rest being Guatemalans, who are said to have had their scientific longings stimulated by a notice from the President of the Republic that he hoped he would not have to cancel their licenses on account of their not attending the congress. Nicaragua and Honduras, not being on good terms with Gautemala, were not represented in the congress, while Costa Rica and some of the South American countries were represented by local doctors. The official delegate for Brazil was a homeopathic graduate and Vice-Consul at New York, the Colombian representative was also a homeopath, while Uruguay was represented by a lawyer, who is also Minister to Spain. The com-

position of the congress was therefore a little mixed. Our delegation was the largest, and little San Salvador, the next-door neighbor of Guatemala, was next in number.

The session was opened with great pomp, the Minister of Foreign Affairs reading an address of welcome from the President of the Republic, who was in mourning on account of the death of his mother, and was not present. Although the hour was 10 o'clock in the morning, we were told to wear full-dress suits, opera hats and white gloves. The various Cabinet officers, generals and other army officers, judges, foreign ministers and members of the diplomatic corps were present in full regalia, and a fine military band discoursed music in the intervals between the speeches. At the scientific sessions a great many different papers were presented, but as most of them were not accompanied by their authors they

IL TEATRO COLON DI GUATEMALA

were read in abstract or by title. Many of these papers came from the United States. The papers that were presented by the Spanish-American authors had good titles and when read had a sonorous and agreeable sound, but as my knowledge of the Spanish language can scarcely be dignified with appellation of "very limited," I could only guess at the context. On the other hand, the papers read in English were understood by very few. The most remarkable address was by the delegate from Brazil, who spoke quite at length in Portuguese, and not a soul except himself knew what he was talking about. The Central American doctors are a very good-looking and intelligent set of men, some of whom spoke English and French and appeared to be abreast of the times in medical matters. I have no doubt that the congress will be of vast benefit to Guatemala and Central America, both from a scientific and

commercial point of view. What may have been the merits of the congress from a scientific standpoint I am unable to say, but as a social event it was a magnificent success. From the Government down, the most elaborate hospitality was shown, and receptions, banquets, balls, musical performances, visits to public buildings, drives, races, and even a sham battle, were given in our honor. There is a medical school in Guatemala City with 250 students, with a fine large building, and a general hospital with 400 beds. There is also a large military hospital, a new maternity hospital, a splendid vaccine institute, public disenfectorium, crematory and a fine new laboratory belonging to the Practical School. The Government and people of Guatemala are thoroughly appreciative of the necessity for advanced medical institutions, and strenuous efforts are being made to apply scientific knowledge to their practical needs.

I have been asked frequently if the weather was not oppressively hot. On the coast the temperature is high and the sun beats down with vertical rays that are dangerous to one not acclimated, but the interior is very mountainous, and the capital itself is situated on a broad plateau 5000 feet above sea-level. The temperature in the interior ranges from 65° to 75° the year round, and the climate is very much more agreeable than that of Baltimore. In August, while deaths from sunstroke were occurring daily in New York, a light overcoat was very comfortable at night in Guatemala City. The conditions of life are very easy. The soil is of wonderful fertility, and produces a great variety of products, such as coffee of excellent quality, grain of all kinds, fruits and vegetables, while the resources of the country are as yet almost entirely undeveloped. The servant question, which is such a problem here, does not concern the people of Guatemala. Americans and Englishmen who go to the country temporarily frequently remain permanently on account of the pleasant climate, easy life and agreeable society. The curse of all the Central American countries, except Costa Rica, is unstable government, frequent revolutions, tyrannical conditions and huge military establishments. With peace, stable government and the disbandment of the large armies, for which there should be no use, a high degree of prosperity is sure to come. These countries are quite accessible to us—they are, in fact, almost our next-door neighbors, and yet we are in great ignorance not only of their customs and mode of life, but even of their geography. From Baltimore to Guatemala City is about seven days' journey, with fair, but not excellent, steamship and railroad accommodations, fair hotels, but not Waldorf-Astorias, and a certainty of seeing new and interesting phases of life and charming scenery, by one who makes the trip. An interoceanic railway now

courses the country from Puerto Barrios on the Caribbean to San Jose on the Pacific, and our mercantile houses should awaken to the opportunities for the development of trade, which is now largely in the hands of the English and the Germans.

RANDOLPH WINSLOW, A.M., M.D.

RANDOLPH WINSLOW, A.M., M.D.,
Professor Surgery, University of Maryland

Medical Items.

J. King B. E. Seegar, M.D., of Baltimore and Miss Elizabeth Bosley of Towson were married on December 2.

James A. Long, M.D., of Frederick, Md., was married on December 19 to Miss Alice G. Rust. They will reside in Frederick.

Peregrine Wroth, Jr., M.D., of Baltimore, and Miss Wye Townsend Lower of Washington were married on December 18. They will reside in Hagerstown, where Dr. Wroth will practice.

Luther G. McCollum, M.D., Maryland Medical College ('04), died at Baltimore November 24 from septicemia, aged 26.

August F. Volkman, M.D., University of Halle ('50), died at his home in Baltimore on December 18.

James Edward Tompkins, M.D., University of Maryland ('91), practicing in Fredericksburg, Va., died in Baltimore November 18.

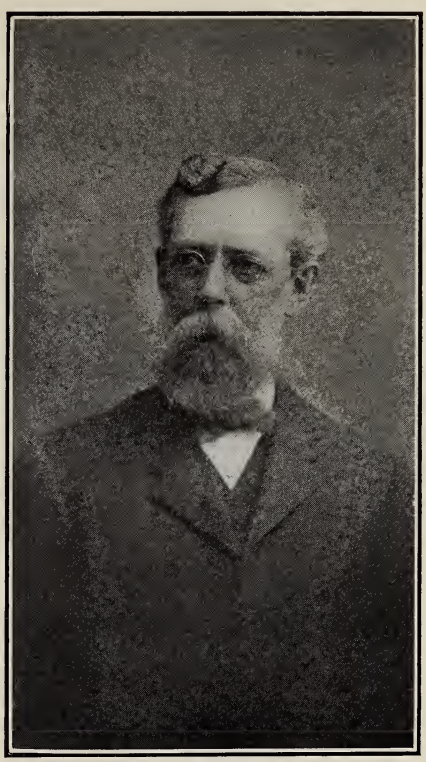
Emil Novak, M.D., Baltimore Medical College ('04), was elected secretary of the Maryland Society of Social Hygiene.

Henry H. Weinberger, M.D., University of Maryland ('08), has been appointed resident physician of the Maryland Homeopathic Hospital.

A tract of land, comprising about 70 acres, has been purchased near Hagerstown by the Washington County Hospital Association, which will erect a fine hospital on the site, commencing operation next summer.

John C. King, M.D., superintendent of the Southwestern State Hospital for the Insane at Marion, Va., after inspecting Bayview, scored it severely, saying conditions there were worse than he had found them anywhere else.

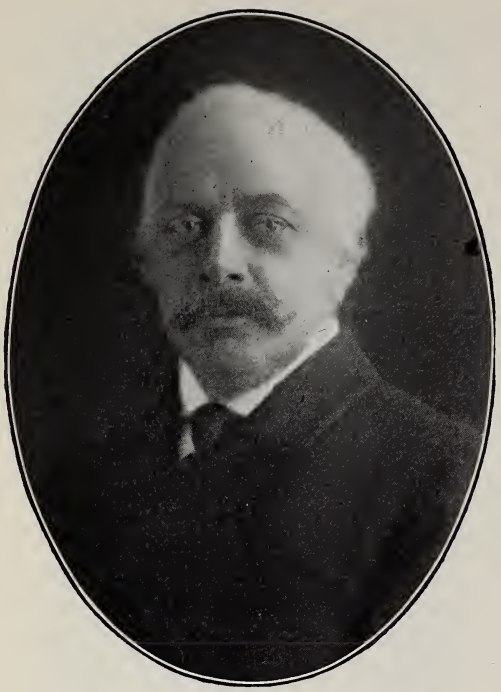
Richard P. Bell, M.D., of Staunton, Va., has been appointed resident physician at the Union Protestant Infirmary. Dr. Harry L. Homer has been made first assistant, Dr. Arthur Morse second assistant, and Drs. James H. Scarborough and J. P. Fletcher surgical internes, and J. E. Barnes medical interne.



WILLIAM EDWARD MOSELEY, M.D.

In honor of his completion of 30 years' work in psychiatry, a banquet was tendered to Dr. Edward N. Brush, superintendent of the Sheppard and Enoch Pratt Hospital for the Insane, at the Baltimore Club on December 12. The dinner was attended by many local physicians and men of prominence, as well as by a number of out-of-town physicians. Dr. G. Alder Blumer of Providence, R. I., presided. Dr. William Osler of Oxford University telegraphed his greeting as follows: "Greeting to Dr. Brush. Only gratitude and affection can pay the debt of the profession to him." Among the speakers were Attorney-General Charles J. Bonaparte, Drs. Ira Remsen of the Johns Hopkins University, George A. Pope, C. K. Mills and William A. White, head of the Government Hospital for the Insane.

Announcement has been made of the resignation of Robert W. Johnson, M.D., as professor of principles and practice of surgery at the Baltimore Medical College, and the election of



ROBERT W. JOHNSON, M.D.

Ridgely B. Warfield, M.D., to the vacant chair. Dr. Johnson is a native of Baltimore county, Md. He is an alumnus of Princeton College ('76) and of the University of Pennsylvania ('79). For 17 years he has been a member of the faculty of the Baltimore Medical College. He will devote his time to the practice of his specialty.

Dr. Ridgely B. Warfield is a graduate of the University of Maryland, class of 1884, and has been a member of the Baltimore Medical College faculty since 1895.

The resignation of William Edward Moseley, M.D., professor of diseases of women, will also take effect on January 1, 1909, after 12 years' continued service in this chair. He will be succeeded by William Brinton Perry, M.D. Dr. Moseley was born in Massachusetts, and educated at Antioch College and Harvard University. He located in Baltimore in 1874, where he has since been actively engaged in his professional duties.

Dr. Perry is a Virginian and an alumnus of the Baltimore Medical College ('89).

Dr. William N. Hill, who attained considerable fame as the exterminator of the mosquitoes in the city, died December 25, 1908, at 8.30 o'clock P. M., from a complication of diseases. He had been in ill health since October, his condition gradually declining until his death. His home was on Mulberry street, near Paca.

Dr. Hill was one of the best-known physicians in Baltimore, chiefly because of his long and deep interest in the mosquito problem. When the Health Department decided to take up a campaign against the pest Dr. Hill was chosen as the chief of the extermination squad, and through his energetic work and the scientific and effective means he employed much was done to reduce the number of disease-bearing pests.

He was also interested in the scheme for the drainage and reclamation of swamp lands, and in the last few years he devoted much of his time to working up a feasible plan of reclaiming the under-water land in Maryland.

The funeral took place from the residence of his brother, Mr. Robert Hill, of 1806 North Bond street, at 11 o'clock Monday morning. Services were conducted by Rev. Dr. Harris E. Kirk, pastor of Franklin Street Presbyterian Church, Franklin and Cathedral streets, and Rev. A. S. Beresford, pastor of the Universalist Church, Guilford avenue and Lanvale street. The interment was in Baltimore Cemetery.

St. Joseph's Hospital has awarded contracts to Edward Brady & Son for the erection on the hospital grounds, at Oliver and Caroline streets, of a two-story power-house, in which will be located a complete equipment for heating and lighting of the hospital. The new building will face on Eden street, and will have a frontage of 46 feet, with a depth of 78 feet. The exterior walls will be of brick and the interior construction will be made fireproof.

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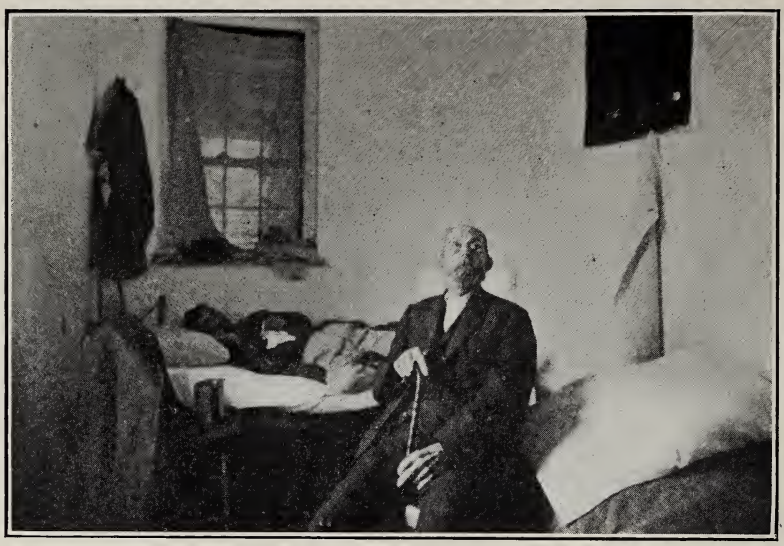

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Announcements.

MEDICAL INTERNE (FEMALE).

The United States Civil Service Commission announces an examination on January 13, 1909, at the places mentioned in the list printed herein, to secure eligibles from which to make certification to fill a vacancy in the position of medical interne (female), Government Hospital for the Insane, Washington, D. C., at $600 per annum with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital.

The Department states that it reserves the right to terminate the appointment at the expiration of one year of service if it is deemed advisable to do so.

As the Commission has experienced considerable difficulty in filling this vacancy, no eligibles having been secured as the result of the examination held on June 17, 1908, qualified persons are urged to enter this examination.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects.	Weights.
1. Letter-writing (the subject-matter on a topic relative to the practice of medicine)	5
2. Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy)	10
3. Chemistry, materia medica and therapeutics (elementary questions in inorganic and organic chemistry; the physiologic action and therapeutic uses and doses of drugs)	15
4. Surgery and surgical pathology (general surgery, surgical diagnosis, the pathology of surgical diseases)	20
5. General pathology and practice (the symptomatology, etiology, diagnosis, pathology and treatment of diseases)	25
6. Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the application of hygienic methods to prophylaxis and treatment)	10
7. Obstetrics and gynecology (the general practice of obstetrics; diseases of women, their pathology, diagnosis, symptoms and treatment, medical and surgical)	15
Total	100

Applications will be accepted only from persons who indicate in answer to Question 17 of the application form that they have been graduated from reputable medical colleges not more than two years prior to the date of examination.

Unmarried women only will be admitted to this examination.

Age limit, 20 years or over on the date of the examination.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the Board of Examiners at any place mentioned in the official list for application, Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

MEETING OF THE STATE LUNACY COMMISSION.

The State Lunacy Commission invites you to be present at a special meeting to be held January 20, 1909, 8 P. M., at McCoy Hall, Johns Hopkins University. Subject, "State Care of the Insane," Gov. Austin L. Crothers presiding. Dr. Adolf Meyer, professor of psychiatry, Cornell University, N. Y.; director Phipps Psychiatric Clinic, Johns Hopkins Hospital, "The Responsibility of the State Concerning Mental Diseases;" Hon. Isaac Lobe Straus, Attorney-General, "The Duty of the State in Caring for the Insane;" Dr. Arthur P. Herring, secretary State Lunacy Commission, "County Care Versus State Care;" stereopticon demonstration. An exhibit of the industries conducted by the insane in State hospitals will be presented for the first time.

Dr. Hugh H. Young, President;
Dr. John D. Blake,
Dr. R. Markley Black,
Dr. Henry M. Hurd,
Hon. Isaac Lobe Straus, Attorney-General;
Dr. A. P. Herring, Secretary.

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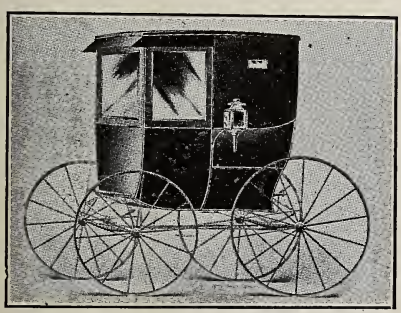

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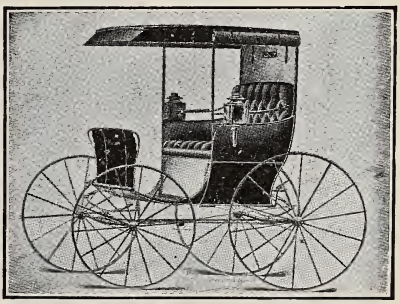

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Editorial Comment.

THE PASSING OF THE PRECEPTOR.

Journal of the American Medical Association.

With the advance of medical education, with the constantly increasing requirements for admission to the medical school, and with the lengthening and elaboration of the course of study necessitated by the enlargement of the field of medical knowledge, there has almost disappeared from view an erstwhile important factor in medical education—the preceptor. Formerly, before going to college, the student spent a year or more studying with his preceptor, going about with him, seeing his patients, and learning not only how to diagnose and treat disease, but, above all, how to conduct himself in his relation to his patients. His vacations were spent in the same manner, and thus from the beginning he was taught to meet his patients on a plane of personal relationship rather than to regard them merely as scientific problems. The graduate of today is often woefully lacking in the personal side of the physician's art, and it may take years of sad experience to teach him what his father unconsciously absorbed while learning the sutures of the skull. Interneship in a hospital can only partially replace this lost opportunity, for while the young physician observes there the attitude of his chiefs toward the patients, the circumstances are quite different from those of general practice, as he must learn when he first "hangs out his shingle" and undertakes to meet the patient in his own home.

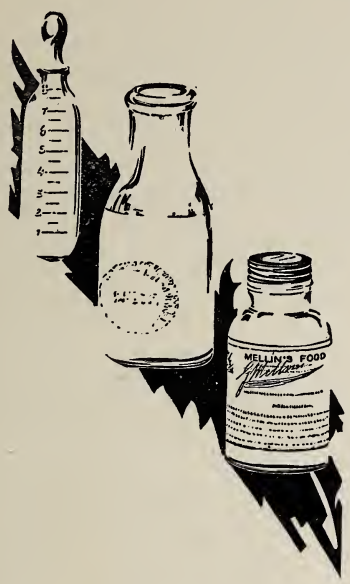
The opportunity which came to the student of seeing patients with his preceptor before entering the medical school and observing the problems which must be met and solved gave him a sense of proportion which comes with difficulty to the student who is thrown without preparation into the perplexities of college life. The former was better able to grasp the importance of the subjects presented to him at college and their relation to the work which lay before him. It has been said that "a lofty scorn for detail is the natural attitude of the immature," and while the present tendency to insist on a preliminary training in the exact sciences is a healthy antidote for this attitude, the actual demonstration by the preceptor of the pre-eminent value of exact knowledge in treating the sick showed the student as nothing else could that generalizations can be based with safety only on a foundation of fact—that knowledge must come before wisdom. The encouragement and example of the wise preceptor taught the lesson that the medical school should be but the beginning of a lifetime of study—study of books, of men and of things. The comprehension of the meaning of the medical school, the broader view of the opportunities which lay before him gained by the student who studied with the preceptor, particularly if he were fortunate in the choice of his preceptor, led inevitably to a greater interest in the work and to a more intelligent grasp of the subject.

The proper relation of the physician to his professional brethren, the time-honored principles of professional etiquette and the physician's duty to the community at large were inculcated in the mind of the beginner in a manner which, unfortunately, has no parallel in modern medical education. Osler says of the "true student" that he may be recognized by three signs—"an absorbing desire to know the truth, an unswerving steadfastness in its pursuit, and an open, honest heart, free from suspicion, guile and jealousy." The passing of the preceptor has removed a powerful influence in the encouragement of such an ideal.

CARE OF LEPERS.

Charlotte Medical Journal.

The recent case of the leper, Early, at one time a resident of North Carolina, who was found to be suffering from leprosy while in Washington, and who is being cared for in that city, is one of interest to all thoughtful people. A case similar, in that the unfortunate was



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afflicted with the same disease, but much more lamentable in its ending, was that of the Syrian leper who was hounded from town to town and from State to State, for no fault of his own, in the summer of 1906. These two incidents and the one of Mrs. Wardwell in Arizona have demonstrated in a striking way the absence of proper provision for such cases. The panicky fear of the people in the case of the Syrian would not have shown itself had there been some way of caring for the unfortunate.

In 1901 there were 278 lepers in the United States. There are at the present time probably in the neighborhood of 300. These are scattered irregularly throughout the country, and whereas one or two States have a sufficient number to warrant some provision for their special care and isolation, some of the others have but one or two known cases, and many none at all, except as cases may occasionally occur, as the three above mentioned. The consensus of opinion is that individuals suffering from leprosy should be isolated; and, on the other hand, humanity demands, if not that they be made comfortable, at least that they do not suffer for the common necessities and simpler comforts. It would seem that all these unfortunates, with the exception of those the individual States preferred to take charge of themselves, could best be taken care of in one institution, which for convenience might be established by the Federal Government and supported from the national treasury, or by each State paying for the care of lepers sent by it for treatment. Such an arrangement would greatly diminish the number of foci of the disease scattered among the States, and for this reason would have no important sanitary value. The economic advantage of supporting all cases of the disease in one institution rather than in many smaller ones is self-evident. Then, too, with such an establishment, our ideas of the demands of humanity and civilization would not be wounded by the frequent occurrence of isolated cases and the inhuman treatment accorded them, as in the case of the Syrian who died in West Virginia in 1906.

ANIMAL EXPERIMENTATION.

Boston Medical and Surgical Journal.

THE recurring agitation regarding animal experimentation renders it highly desirable that every means should be taken to prevent misapprehension. It often happens that the so-called evidence used by hostile critics of such experimentation is taken from articles in journals devoted to the medical sciences. In such articles it not infrequently happens that no special mention is made of the anesthesia to which the animal is subjected preliminary to and during the experiment, and the assumption is quickly made by those interested that anesthetics have not been administered. It becomes, therefore, very desirable that those writing articles in which a description of animal experiments is given should in every instance state the anesthetic employed. The medical journals can no doubt do much by insisting that articles submitted to them for publication be not worded in such a way as to cause misapprehension, and particularly that a statement of the anesthesia be appended. By this means it is evident that much misunderstanding may be allayed and that the public as well as the medical profession may be given information regarding methods of conducting experiments on animals which both have a right to know. If the medical journals throughout the country unite in an effort to require such statements as we have indicated above, much may be done for the cause of legitimate medical research.

Excerpts.

THE PHYSIOLOGICAL SIGNIFICANCE OF THAT FIRST LESSON.

STEPHEN SMITH of New York says that in these later days there is a more hopeful out-

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look for the feeble-minded, insane and criminal classes. We are in a better position to cure, develop and reform them than in the old days of segregation. He suggests that the service of any such institution should be organized with every possible effort to individualize the different cases in treatment and with officers willing to take a great interest in each one of the patients. Every inmate should be the object of especial study and record. The first examination should be exhaustive, and should reveal all the faults of nutrition and assimilation. The family organization of such institutions is necessary. The attendants should be specially educated along the lines connected with their work. They should understand the structure and functions of the nervous system. The supervising officers should possess the highest possible qualifications and devote all their skill and energy to the personal supervision of instruction of attendants and teachers. The cell is the medium of the highest psychic functions. The intimate texture of the cell is inherited, but may be modified by exercise, nutrition and environment. The brain cells may be awakened and developed, and on this depends the education of the feeble-minded class.—*Medical Record.*

MEDICAL FEES IN ANCIENT GREECE.

THE remuneration of physicians originally consisted in presents, but at the time of Hippocrates payment in money was already customary. Physicians received also public praise, the "crown of honor," the freedom of the city, the privilege of eating at the king's table. Physicians employed by the State received a yearly salary, as high as $2000 in some instances. Rich people would pay enormous sums for a successful treatment, and a case is recorded in which $200,000 was paid.—*New York Medical Journal.*

Lay Press.

HEALTH OF NEGROES.

A "HEALTH EXHIBITION," the first ever devoted wholly to the welfare of negroes, was held at Tuskegee, Ala., beginning Monday, December 14, and concluding Saturday, December 19. The National Association for the Study and Prevention of Tuberculosis sent its traveling exhibit, known as the American Tuberculosis Exhibition. An extensive program of illustrated addresses, platform meetings and conferences was conducted by a strong local committee under the direction of the advisory board, including representative colored men and women in all parts of the country.

The program was along the lines of the recent International Congress on Tuberculosis at Washington. Practically a negro congress on tuberculosis, or consumption, was held for the study and prevention of that dread disease. In addition to the medical sessions, the program gave particular attention to the general topics discussed at Washington as they relate to the colored race.

The American Tuberculosis Exhibition, which has been shown in three countries, was displayed in commodious quarters on the grounds of Tuskegee Institute.

OWING to the great infrequency of primary tuberculosis of the bladder, it is important in every case in which this disease is suspected to look for a tuberculous focus in some other part of the urogenital tract.—*International Journal of Surgery.*

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery

Vol. LII, No. 2 BALTIMORE, FEBRUARY, 1909 Whole No. 1089

SOME ESOPHAGEAL CASES.

By Richard H. Johnston, M.D.,
Baltimore, Md.

Laryngologists throughout the country are taking much interest in the study of esophageal lesions. The esophagoscope introduced by Dr. Chevalier Jackson of Pittsburg, simple in its construction, has no doubt stimulated many of us to work in a field which is not open to the usual methods of examination. A few have used the gastroscope in the attempt to diagnose certain stomach diseases which have baffled other methods of investigation. Dr. Jackson has shown that gastroscopy is not only possible, but comparatively simple. The passing of the tube into the stomach causes little or no shock, and practically the only inconvenience suffered by the patient is a slight sore throat, which soon disappears. Esophagoscopy can be performed in most cases under cocaine anesthesia if the patient be fortified an hour before the examination by a hypodermic injection of morphia and atropia. Jackson's instruments are straight metal tubes, with two accessory tubes for the light carrier and for pumping out secretions. The light carriers as made by the electro surgical manufacturers is a small, hollow rod, with the wires inside. The lamp is screwed into the end of the rod until contact is made with the connecting wires. The drainage tube passes down to the end of the instrument and is connected externally with a suction pump, which keeps the field free of secretion. The esophagoscope can be passed by one of three methods. The simplest is the use of the left index finger as a guide. After cocainizing the pharynx and esophagus with special cotton carriers, the patient is placed upon the table with the shoulders about four inches over the edge. The head, in extreme entension, is supported by an assistant in such a way that mouth, pharynx and esophagus are in the same, straight line. With the mouth well open the left index finger is passed into the right glosso-epiglottic fossa, and thence, if possible, into the pyriform sinus. The esophagoscope is introduced, gently, using the dorsum of the finger as a guide. When one is assured that the instrument has reached the sinus, the finger is moved toward the base of the tongue, which together with the larynx is pulled up-

ward; if the movement is successfully carried out, slight pressure on the external end of the instrument sends it into the esophagus. As it passes the cricoid cartilage a slight resistance is felt. Once in the esophagus the electric fitting is attached to the light carrier, and the tube is pushed gently down, under the guidance of the eye. Treatment through the esophagoscope is very satisfactory, because we can see what we are doing. Now that esophagoscopy has reached its present state of perfection, there is no excuse for the blind use of bougies, which may make a false passage or break through into the mediastinum. The following cases have recently been examined at the Presbyterian Hospital:

Case I. E. R., 44 years old, came to the hospital October 24, 1907, complaining of difficulty in swallowing. Some weeks before he had trouble swallowing solids; the dysphagia had gradually grown worse, until only a small amount of liquid food passed into the stomach. The patient pointed to a spot about four inches below the cricoid cartilage as the point where the food stopped. He had always been a healthy man, but for the past seven years had been a hard drinker of all sorts of alcoholic liquids. There was no pain, and the physical condition was good. The esophagoscope was passed, under the guidance of the eye. About three inches below the cricoid cartilage further progress of the tube was stopped by a large, red nodular mass, which appeared to fill completely the lumen of the esophagus. It seemed impossible for anything to pass the obstruction. Palpation with the probe revealed a small opening behind the tumor, which was at once enlarged with Bunt's esophageal bougies, beginning with the smallest and gradually increasing the size. These bougies are passed through the esophagoscope under the guidance of the eye, so that there is no danger of making a false passage. Three days later the operation was repeated. The opening was now large enough to permit the careful passage of a French bougie every few days. If difficulty was experienced in getting the bougie through the stricture, the esophagoscope was again passed and dilatation accomplished with Bunt's bougies. The patient was made fairly comfortable for six months, when death came. Death was not caused by starvation, since he was able to swallow up to the day of dissolution. This treatment is, of course, far better than a gastrostomy if it can be carried out, and this is possible in cases seen early in the disease.

Case II. Mr. H., 57 years old, was referred to me for diagnosis by Dr. J. F. Hempel. In December, 1907, he had some difficulty in swallowing solid food. Dysphagia steadily increased, until only a small quantity of liquid food reached the stomach. When I saw him early in April, 1908, he had lost 115 pounds, and his efforts to swallow were painful to see. He had not eaten a good meal since January 1. A hard cough was a constant source of trouble, and expectoration of blood was frequent. His sputum had been examined and no tubercle bacilli found. His voice had changed in character from a low to a high pitch. The pharynx, larynx and esophagus were anesthetized with a 10 per cent. solution of cocaine

and, with the patient in the sitting position, the 7mm. esophagoscope was passed. About two inches below the cricoid cartilage an obstruction was met with. After wiping out blood, adrenalin was applied, and soon a comparatively dry field was obtained. A large, red nodular growth could now be seen, apparently completely filling the esophagus. The patient had located his trouble at the point where the obstruction was found. The growth was undoubtedly malignant. This case might have been favorable for an operation if the patient had been seen in the beginning of his trouble. Since diagnosis only was wanted, no attempt to dilate the stricture was made. With the laryngeal speculum it could be seen that the left vocal cord was immobile in the middle line of the larynx, which accounted for the change of voice. The paralysis of the cord was caused by the pressure of the growth on the left recurrent laryngeal nerve.

Case III. Mr. B., 60 years old, was examined at the Union Protestant Infirmary at the request of Dr. Julius Friedenwald. The patient had a mass in his stomach indicative of cancer. He also had regurgitation of food. Bougies had been passed, and were always bloody on withdrawal. The throat and esophagus were anesthetized with a 10 per cent. solution of cocaine. With the patient in the sitting position, the small esophagoscope was easily passed to the cardia, where resistance was felt. The use of more cocaine did not allow the passage of the tube into the stomach. A hard, resisting mass was seen, which bled easily, and which was the cause of the dysphagia.

Case IV. M. E., colored, 24 years old, came to the Presbyterian Hospital with dysphagia of one week's duration. She also complained of hoarseness, which had appeared co-incident with the dysphagia. Under cocaine anesthesia the larynx was first examined and the left vocal cord found immovable in the middle line. The esophagoscope was then passed until further progress was stopped, about two inches below the cricoid cartilage. After wiping out secretion a red, granular mass was seen, which was evidently the cause of the dysphagia and the hoarseness. By careful manipulation the small esophagoscope was gotten by the mass, and the lower part of the gullet was easily examined. The dilatation produced by the passage of the tube enabled the patient to swallow much better. From the race and age a probable diagnosis of gumma was made and the patient kept in the hospital, so that the specific treatment could be carried out with certainty and precision. For a week improvement was steady; she insisted upon returning home, promising to continue her medicine and to return from time to time for examination. The hoarseness was improving, and the granular mass in the esophagus was certainly smaller. She was seen three days later, and was so much better that she was swallowing solid food, meat and vegetables, without difficulty. Attempted examination of the larynx and esophagus failed, because the patient had eaten a hearty dinner, and every effort to pass the tubes produced vomiting. She promised to return the next day with an

empty stomach, but, like other dispensary patients, did not do so. She has not been seen since. We think that the rapid improvement under mixed treatment justifies us in the diagnosis of gumma.

These few cases illustrate the ease with which the esophagoscope is passed and the clearness of the view through it. The method is not dangerous, and is far superior to the blind groping with bougies. Gastroscopy is being done at the hospital, and we hope to report a series of cases in the near future in which the mucous membrane of the stomach has been examined. We have convinced ourselves that it is a practicable method of examination, and one which is attended with no danger save that of the ether anesthesia.

THE SYDENHAM HOSPITAL.

The lack of a municipal hospital in Baltimore for infectious diseases has, at last, been met. The fault did not lie with the medical profession, for, many years ago, representative physicians secured the necessary appropriation for such a hospital and forwarded its establishment with great earnestness.

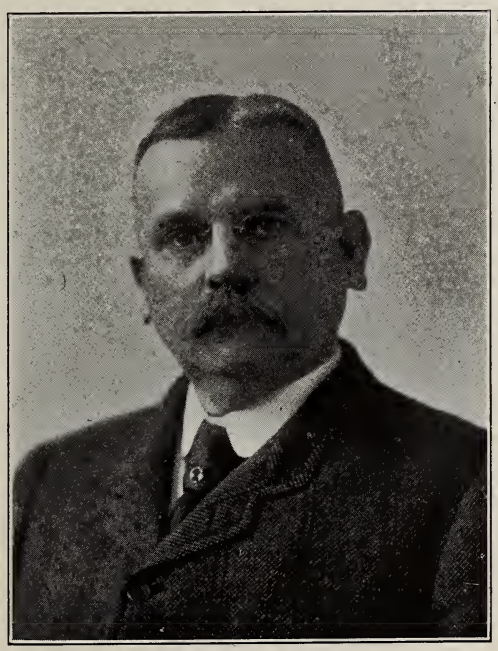
First, there was the objection in the lay mind that patients would not go to a special hospital. The writer was one of a large delegation of physicians, headed by the late Dr. I. E. Atkinson, who visited Mayor Latrobe and persuaded him that such would not be the case. When appropriations were available a suitable site could not be found. About 20 years of earnest endeavor have been spent in overcoming this difficulty. Four years ago an excellent site for the purpose was secured by the purchase of 120 acres of land in the nearer eastern suburbs of the city, and the hospital constructed there will be opened for the reception of patients in the middle of February.

The inception of this great sanatory institution is so important and era-marking that the present Health Commissioner justly looks upon it as the greatest accomplishment of his public career. Born at Whitehall, Baltimore county, and graduating at the University of Virginia in 1874, Dr. Bosley, after thoroughly establishing himself in practice in our city, found time also for municipal services and became successively Vaccine Physician, School Commissioner and (in 1900) Commissioner of Health. This last-named responsible office he accepted from Mayor Hayes only on the distinct promise that the Mayor would aid in every way the movement for a hospital for infectious diseases. The profession will certainly congratulate him upon his success, and will doubtless express their appreciation by a large attendance at the opening cermonies.

Sydenham seems rather a pretentious title to apply to the buildings on the hills looking northward toward Back River, but with the eye of prophecy we see there a great cluster of hospitals equal in equipment and in scientific appointment to any in America.

The Hospital Commission—Dr. W. H. Welch, Prof. R. Dorsey Coale (replacing Dr. I. E. Atkinson, an earnest promoter of the

project until his death), Dr. John W. Chambers, Dr. John D. Blake, Mr. F. X. Donnelly, the Mayor and the Commissioner of Health—found that the appropriation of $25,000, after deducting the purchase money for the land, would suffice for the erection of only a part of the projected group according to the enlarged plans, but the urgency of the need for hospital care and isolation of infectious patients among the crowded poor and in hotels and boarding-houses led them to throw open those buildings now ready. These include one ward building—a permanent brick structure on the pavilion plan, one story high, well lighted, entered by five separate doors, and capable of accommodating 34 patients in several isolated groups — and three temporary buildings, administration,



JAMES BOSLEY, M.D.
Health Commissioner of Baltimore

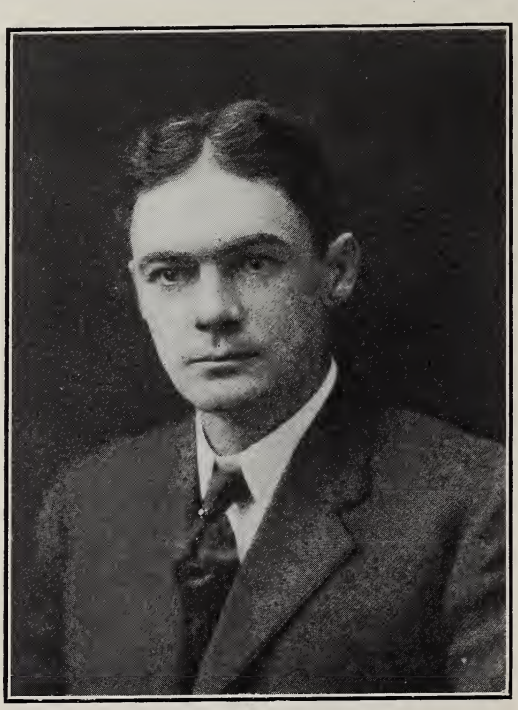
stable and laundry. As soon as the money is appropriated three more similar ward buildings will be added, so that different diseases may be in buildings apart from one another. The wards are equipped with a complete system of vacuum cleaning, avoiding dust and sweeping. A big vacuum steam disinfector has already been installed. The best modern methods of disinfection will be employed.

Dr. Bosley has appointed as physician in charge (who will be expected to develop the institution along original lines) Dr. Warren P. Morrill, a native of Michigan, graduate of the medical school of the Johns Hopkins, who has made a special study of

infectious diseases. He has for some time been house physician at the Children's Free Hospital in Detroit.

The hospital will afford to city nurses much-needed experience with infectious diseases, as the nursing will be done by affiliation with city training schools. Undergraduates of the various schools will be taken in for three months and will receive a thorough training from expert physicians and nurses.

The law authorizing the construction of this hospital limits it to the reception of four diseases—scarlet fever, diphtheria, measles and chicken-pox. There is no doubt in the mind of any experi-



WARREN P. MORRILL, M.D.
Superintendent of Sydenham Hospital

enced practitioner that municipal care for the three first mentioned is urgently needed. Isolation of patients in the homes and boarding houses of the city is quite impossible in many cases, even with the best efforts of the physician in charge and of the health authorities. Strict quarantine of the family entails loss of wages and business of very serious import. Moreover, the public schools can never be free from contagion until municipal isolation wards are open for the reception of these diseases. Provision must also be made for contagious cases among immigrants.

The chief danger to the community from chicken-pox is not from the seriousness of the disease itself, but from the fact of its

close resemblance in many epidemics to smallpox. Again and again, as a review of our journals readily shows, smallpox has spread widely in communities under the honest but mistaken diag-

WARD BUILDING

nosis of chicken-pox. A few years ago the writer saw a case lectured upon in clinic by one of the most competent medical teachers of Baltimore as chicken-pox, which developed in a few

ADMINISTRATION, WARD, LAUNDRY AND STABLE BUILDINGS
(From Left to Right)

days into a clear case of smallpox. The late Dr. I. E. Atkinson, whose diagnostic skill none doubted, use to say to his students: "Gentlemen, when you find a case of chicken-pox in an adult, it is

smallpox." This is quite apart from consideration of varioloid, which introduces still greater difficulties of diagnosis.

For the present, owing to the lack of isolation facilities, it will be necessary to limit admissions to patients suffering with either diphtheria or scarlet fever. Colored patients must also, for the present, be refused.

The simple statement of these limitations will sufficiently impress upon our readers the urgent necessity for continued agitation of the subject. To make no provision for measles, which, under certain conditions, may be one of the most contagious and fatal of all epidemic diseases (at present the cases reported seem to be largely not measles at all, but the comparatively harmless rubella), is certainly a serious defect in any municipal establishment of the sort. Moreover, the exclusion of colored patients, in whom the diagnosis is doubly difficult, calls even more urgently for a completion of the plans of the commission.

The hospital will be conducted by the Health Department. Upon notice to the Health Department by attending physicians that hospital care is desirable, patients will be conveyed directly from their place of residence to the Sydenham Hospital in the ambulance of the Health Department.

THE PHYSIOLOGICAL AND THERAPEUTICAL INFLUENCE OF THE MIND ON THE BODY.*

By William E. Magruder, M.D.,
Sandy Spring, Md.

During the past decade medical and other writers in all parts of the world have called attention to the important part played by the mind in the causation and cure of disease, so that by this time the amount of literature upon this subject is enormous.

The writer desires, largely through quotations from these contributions, to indicate the lines along which observations have been made and the books which may be consulted with profit by those who are interested in the subject.

Schofield in his volume, "The Force of Mind," says: "The most recent physiologies agree in dealing *solely* with the apparatus, structure, mechanism and function on a mere descriptive level, characterized, it is true, by the most minute accuracy of detail. But there is such an absence of all consideration of the necessary co-ordinating power, which alone can make of these diverse machines and many members one harmonious unity, one perfect man, that the whole reads more like a work on physics than the story of the somatic life of a human being. And yet the unity in diversity displayed by the body in general, and by its members in

*Read before the Montgomery County Medical Society, held at Rockville, April 21, 1908.

particular, as much postulates a central guiding force as the co-ordinated evolution of a large army proves the existence of a commander-in-chief. Once this is grasped the importance of a study of this controlling, directing power will be no longer denied, and its practical value will not be lessened if the power prove to be mental rather than physical."

And in another place he says: "We may now briefly consider the mental factor in various simple physiological processes as producing or arresting them under certain special conditions, as well as its general controlling power. With regard to the heart we know that of all the organs in the body it is the one most easily influenced by the mind and emotions. In all people the mind can alter its movements in speed, rhythm and force, but in nervous people it is a veritable echo of the prevailing emotions at the time. * * * Look at the vascular system not in a microscopical and mechanical detail as so admirably set forth in our physiologies, but as it acts in man, intelligently directed for the benefit of the whole being. The circulation does not go round, as most text-books would lead us to believe, as merely of the action of a system of elastic tubes connected with a self-acting force pump. It is such views as these that degrade physiology and obscure the marvels of the body. The circulation never flows for two minutes in the same manner. In an instant miles of capillaries are closed or opened according to the ever-varying body-need of which we are consciously entirely unaware. The blood supply of each organ is not mechanical, but is carefully regulated from minute to minute in health exactly according to its wants and activities, and when this active control ever ceases we recognize it as disease and call it congestion. The circulation and heart forms an organic entity, carrying on under some diligent supervision (the unconscious mind) purposive and ever-varying action for the good of the body as an organic unity, as well as, subordinately for itself, part of that unity. The calibers of the arterioles and capillaries are ever changing throughout their countless miles, and the beat of the heart alters incessantly. To call all this action of the vasomotor, pneumogastric and other nerves merely reflex in the sense that governor balls flying around regulate the speed of an engine in proportion to its work is inadequate and inexact. We doubt not that much may be of this character, but the circumstances in which the body is placed are unique, novel and unanticipated, and of a nature that no mere mechanical arrangements could meet, and, we may add, no mechanical automaton survive. Consider what adjustments of the vascular system, and especially the surface capillaries, are needed for incessant changes of temperature, for changes of position and gravity, for changes of time, as at night to secure sleep, for the varying activities of each organ, for special supplies to the stomach at lunch and dinner, and to the various emotions; for supplies to the limb muscles in active exer-

cise, for eliminating poisons from the blood, for the reception of food and the functions of metabolism. Fear can close in a moment miles of capillary vessels which shame can as quickly open. The digestive organs in the same manner must be controlled to respond in the marvelous manner they do to the endless variation and quantity of food, consisting often of new and untried ingredients and received at most irregular intervals. All the supplies of the various digestive fluids have to be made in the required amounts and at definite times. The mechanism of the liver has to be readjusted to its work of incredible delicacy. Poisons, excess and starvation and the needs of all the other organs have to be met from day to day."

Many experiments go to show that the chief center from which emanates this force which exercises control over all these various functions of the body is in some part of the brain. Professor Clouston in an inaugural address to the Royal Medical Society in 1896 said: "I would desire this evening to lay down and enforce a principle that is, I think, not sufficiently and often not at all considered in practical medicine and surgery. It is founded on a physiological basis and is of the highest practical importance. The principle is that the brain cortex, and especially the mental cortex, has such a position in the economy that it has to be reckoned with more or less as a factor for good or evil in all diseases of every organ, in all operations and in all injuries. Physiologically, the cortex is the great regulator of all functions, the ever-acting controller of every organ and the ultimate court of appeal in every organic disturbance. We all know that every organ and every function is represented in the cortex, and is so represented that they all may be brought into the right relationship and harmony with each other, and so they all may be converted into a vital unity through it. Life and mind are the two factors of that organic unity that constitutes a real animal organism."

This central power which controls all the functions of all the cells and organs in the body is believed to be distributed by means of the sympathetic system of nerves, which are widely spread throughout every part of the body. All these important functions are carried on without any consciousness of them on our part.

Different names have been given to this power by different writers, such as "unconscious mind," "subconscious mind," "subliminal mind," "subjective mind," "the infinite life force," and while none of these names is entirely satisfactory, it matters little what designation we choose, provided we recognize the existence of this force. No doubt it is this same force that is put forth to repair any part of the body which is injured or becomes diseased, and then we call it the "Vis medicatrix naturae."

This therapeutical influence of the mind on the body is ignored by the larger part of the medical profession, but is very generally exploited by quacks and charlatans. Yet it has been in the past

and is now recognized by some of the leading and most scientific physicians in the world.

Dr. Hunter, the great English surgeon, said: "As the state of mind is capable of producing a disease, another state of mind may effect a cure."

Dr. Maudsley said: "Perhaps we do not as physicians consider sufficiently the influence of the mental states in the production of disease, their importance as symptoms, or take all the advantages we might get from them in our efforts to cure disease."

Dr. Robertson in *The Lancet* in 1894 said: "While the influence of the mind over the body is universally recognized, its employment as a therapeutic agent is purposely used by but few in the regular ranks of the profession."

Dr. Sealy in his essays wrote: "I shall now consider the mind as a source of cure and as an agent equally potent and as frequently used for the removal of a corporeal malady as I have shown it to be active in its production."

Dr. Carpenter said: "That the confident expectation of a cure as the most potent means of bringing it about, doing that which no medical treatment can accomplish, may be affirmed as the generalized experiences of the most varied kind extending through a long series of ages."

Sir John Forbes wrote: "Means acting directly on the mind and influencing other parts of the body through it form an important class of remedies and occupy a much larger space in therapeutics than is commonly believed, and deserve to occupy a still larger one. Their operation is fully as powerful and effective in disease of a purely bodily character as in mental disease."

Dr. Hack Tuke in his classical work on "Mind and Body" says: "I want medical men who are in active practice to utilize this force, to yoke it to the car of the son of Apollo, and, rescuing it from the eccentric orbits of quackery, force it to tread with measured step the orderly paths of legitimate medicine."

In a chapter in Dr. Skene's book on "Medical Gynecology," headed "Mental Therapeutics," are these words: "There is more reason why this subject should be discussed, because during the last decade considerable attention has been given to it by some of the most scientific men in the profession. There is still very little known on the subject compared with what should be in order to utilize this agency more fully in the practice of medicine. From the very beginning of the healing art a certain mental or psychological power has been known and exercised in curing the sick. I therefore fully believe in and have long practiced this mental therapeutics as far as suggestion is concerned."

Dr. McBride of Pasadena, Cal., who was chairman of the Section on Nervous Diseases at the meeting of the American Medical Association held in Portland, Ore., in 1905, said: "It is possible, I admit with hesitation, that there is a place in medical practice for systematic mental therapeutics, and if proper attention were

paid to it, it might be taken out of the hands of mental healers and their like, as the profession took surgery out of the hands of barbers and pretenders. All such departures from accepted methods, the breaking away from conservatisms, are not easy, but it is desirable that we consider it without prejudice."

The records of history show that many marvelous cures have been effected under all systems, ancient and modern. It is claimed that the priests of that most ancient civilization, the Egyptian, to use the language of Colquhon, "appear to have comprehended the method of exciting that internal sanitary instinct in the human organism which in general is a profound mystery even to the individual who excites it, and which was therefore in those remote ages represented as the immediate gift of the gods."

Livy tells us that the temples of the gods of Rome were rich in the number of offerings which the people used to make in return for the cures received from them.

We are told that undoubted cures have been effected all over the world, notably in India, China and Africa, in the presence of actual idols. Other similar cases of cure are mentioned all down through the history of the church. St. Bernard and St. Patrick are said to have made some marvelous cures. Cases that seem to be well authenticated are reported as having been made at Lourdes, France, and in the presence of the holy coat at Treves, Prussia. Near Quebec, Canada, is the church of St. Anne de Beauprè, where visitors are now shown pyramids of crutches and canes left by those who, it is claimed, were cured there. George Fox, the founder of the Society of Friends, or Quakers, claims in his journal to have cured cases of disease without any material remedies.

It was claimed by John Wesley, the founder of Methodism, that he made some remarkable cures of the sick by "prayer and laying on of hands." And repeated instances of cure are said to have been effected in the same way by the earlier followers of Wesley and by some of the Methodists in this country, of which the cures at Old Orchard Camp-Meeting, Maine, are among the notable examples. Other very marvelous ones are claimed to have been made in the past and are being made now among the spiritualists, among the Mormons and among the followers of Dowie, among the Salvation Army people and many others.

Drs. Liebalt and Bernheim have practiced successfully for a number of years suggestion with and without hypnotism. In the eighteenth century Mesmer made many cures by what he called animal magnetism, as did many of his followers. This system was quite extensively practiced throughout Europe and in this country a number of years ago under the name of mesmerism, and is used in this country at the present time, mostly, however, under the name of hypnotism, which was given to it by Dr. Braid, an English physician. Dr. Quackenbos, a distinguished physician of

New York, uses hypnotism quite extensively and has published several books on the subject.

Dr. Watson in his work on the "Practice of Medicine," says: "Dr. Gregory used to relate a case of a patient in the clinical wards in Edinburgh (with ague) who, with sundry ceremonies, swallowed some word, written on a slip of paper. The result was that he had not another paroxysm." He also says: "I recollect perfectly having a great awe, when I was quite a child, of my maternal grandmother, because she was reputed to have the power of curing agues by means of some charm. I believe all that she did was to assure the poor people who came to her that they should have no more spells after a certain day, and their implicit reliance upon this prophecy brought about its fulfillment."

The number and variety of persons who profess to cure diseased conditions in this country could not flourish as they do unless they were able to verify some of their claims.

Among the various cults by which cures are claimed to be made may be named 'faith cure," "prayer cure," "spirit cure," "mental science," "hypnotism," etc., and last, but by no means the least, "Christian Science," in whose ranks may be found some of the most intelligent and cultivated people, notwithstanding their unscientific and, to us, absurd theories.

Thomson J. Hudson in his book, "The Law of Mental Medicine," says: "The records show that under all systems, ancient and modern, many marvelous cures have been effected. This fact to the inductive scientist is pregnant with significance, for it is demonstrative that the whole subject-matter is under the dominion of some natural law. The scientist reasons thus: Here is a vast congeries of phenomena to be accounted for. They have been produced in every age and in every tribe and nation in the world, civilized and savage. Some of the phenomena may be accounted for on the score of malobservation, some may be attributed to fraud and legerdemain and much to defective memory or intentional falsehood; but, after due allowance is made for all these and other minor sources of error, the great bulk of the phenomena remains to challenge the attention of the scientist. It is true that science in years gone by has not deigned to meddle with the subject, choosing to relegate all the alleged phenomena indiscriminately to the domain of superstition and imposture. During the last decade, however, it has become evident to the most skeptical that cures of disease are being effected in the midst of the highest civilization by means obviously identical with those employed in the darkest ages of superstition. That is to say, the results are identical, and it is axiomatic that in any series of cognate phenomena identical results presuppose identical or cognate causes. Hence it is that when, as in mental healing, uniform results are reported from widely separated localities, from all races and conditions of mankind during all the ages, ancient and modern, the true scientist

knows that there must be a basis of truth underlying the whole subject, and that all the phenomena are referable to some one generic cause. Nor does the multiplicity of theories of causation held by the various tribes of men or sects of mental healers militate in the least against the students' convictions, for if he has acquired the most superficial acquaintance with the elementary principles of logic, he is aware that there is no necessary connection between theories of causation and the results produced by those who hold them. In other words, the fact of healing the sick by any method whatever does not demonstrate the theory of causation which happens to be entertained by the healer in any given case."

As we further investigate this subject it will become apparent that all cures of disease, whether they follow after treatment by regularly educated and well-trained physicians, using the best methods known to medical science, by any other methods, or without any treatment at all, result from the same generic cause.

The body is composed of myriads of microscopic entities which we call cells, and every organ is composed of groups of cells which are differentiated with special reference to the function to be performed by that organ, and all are under the control of that central power to which reference was made above. The statement of Virchow that a disease of the body is a disease of the cells of the body we accept as true. The cure of disease, then, consists of the restoration of the diseased cells to their normal health and activity.

It has long been recognized by medical men that there is resident within the body a force that is exerted to heal any part that becomes diseased or injured, and doubtless this is the same power that controls and regulates the functions of all the organs and cells in the body. We call this force, as I have before said, the "Vis medicatrix naturae"—the healing power of nature.

On the flyleaf of a book of notes taken by Dr. Zadock Magruder, grandfather of the writer, in 1786 on the lectures of Dr. Rush and others at the College of Philadelphia, now University of Pennsylvania, is this motto: "Medicus minister, natura medicatrix est"—the physician, the servant, nature is the healer.

No intelligent physician claims that it is any more scientifically correct to say that he has cured a case of disease than it is scientifically correct to say the sun rises. All the physician can do is to assist this healing power of nature by removing those things which interfere with its exercise. It is indeed true that without the assistance given by the physician many diseases which are now cured would terminate fatally and much suffering now relieved would have to be endured by humanity.

In addition to the antitoxins and remedies ordinarily used by doctors, this force which has been at work through all ages of the world will become recognized as a prime factor in the cure of disease. We know so little as yet of the laws governing this force that we are unable to utilize it to any great extent. But some of the most eminent physicians and scientists of the world are investi-

gating this subject, and they no doubt in time will succeed in gaining such knowledge of its laws as will enable us to use it in the treatment of diseases as we cannot do now, just as increased knowledge of the laws of electricity has enabled us to use that force in many ways not even dreamed of by the last generation.

There is a large class of diseases called psychoneurosis, brought on by worry, overtaxing the mind and other causes, where pathological anatomy would show no visible changes in the tissues of the brain, but which often so simulate serious organic diseases that the best diagnosticians may, for a time at least, be puzzled. Among this class are to be found most of the so-called wonderful cases of cures claimed by the Christian Scientists and other mental healers. These cases prove very amenable to treatment by suggestion made in various ways.

Psychotherapy is extensively practiced in this country at the present time, and some of the churches, seeing the success attending the use made of it by Christian Scientists and other mental healers, notwithstanding their absurd and unscientific theories, are beginning to use it on philosophical and scientific grounds.

Dr. Worcester, formerly professor of psychology and history of philosophy in Lehigh Uinversity, now rector of Emanuel Church, the largest Protestant Episcopal parish in Boston, and Dr. McComb, his associate, graduate of Oxford, England, are using it quite successfully in their church work, as is also Bishop Fallows of the Reformed Episcopal Church of Chicago.

It is reported that Dr. McDonald of the Washington Avenue Baptist Church, Brooklyn, has also taken up this work. As the Springfield (Mass.) *Republican* in a recent editorial on the subject said, "That clergymen are watching developments with deep interest must be believed, and one hazards little in saying that if the movement gets a good start in the three important cities—Boston, Chicago and New York—under strong denominational influence it may spread rapidly in the smaller communities."

The scope of this subject was outlined by Dr. W. S. Thayer when he said: "The awakening interest in the study and application of psychical methods of treatment is important and hopeful, and not its least importance lies in the fact that we are reminded that many have forgotten to teach their students that by the mental control we gain over our patients we can often accomplish more than by any other means."

Dr. Barker said: "It is all wrong that the physician should make no attempt to reap the crop of good results which might be obtained from psychotherapy, leaving entirely to others those exceptional harvests which astound the unenlightened and make the fame and fortune of quacks."

If the writer can succeed in his efforts to show that psychotherapy is important to physicians, too important to be any longer relegated to the domain of superstition and imposture, he will feel amply repaid.

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D., Baltimore, Md.

THE HEALING AND TREATMENT OF WOUNDS.

In a healthy individual the normal tendency of all wounds is to heal. Whenever a wound persistently remains unhealed we can be sure that there has been interference with the reaction of the tissues to injury. This reaction consists of the series of changes grouped together and known as the process of inflammation, namely, a process of exudation of plasma and migration of leucocytes from the blood vessels, associated with proliferation of the connective tissue cells, and the formation of new blood vessels by budding of the pre-existing capillaries. The tissue, consisting of newly-formed blood vessels, hematogenous cells and various forms of developing connective tissue, is called *granulation tissue*. This tissue is the essential material in wound-healing, and gradually progresses to the formation of the adult fibrous connective tissue, known as *scar tissue*. The protective covering of the wounded part, epithelium or endothelium, grows in from the edges of the wound and covers the granulation tissue. The regeneration of highly-specialized tissues, glandular epithelium, striated muscle, etc., is not as constant as the formation of granulation tissue, nor can this regeneration be so extensive. When it does occur, however, the new cells are formed by proliferation from the uninjured pre-existing specialized cells. Thus, in the healing of wounds involving the skin, the fibrous scar tissue is finally covered by a smooth surface of epithelium, but lacking the hair follicles and glands of the normal skin.

It is usual to speak of two varieties in wound healing, primary and secondary. This difference is one of degree only, and the same series of changes occurs in both varieties. In primary healing of a subcutaneous wound the edges are in accurate approximation; the amount of granulation tissue formed is small, and with its development the proliferation of the epithelial cells at once covers in the forming scar. In healing by second intention the wound cavity is open, and there is a gradual filling in by granulation tissue with growth of epidermis from the edges.

Delayed healing of a wound results in the formation of an area of granulation tissue uncovered by protective cells. Such a wound is an *ulcer*. A *sinus* is a narrow tract lined by granulation tissue, opening on the surface of the body. A *fistula* is a sinus communi-

cating with a body cavity. Long-standing and congenital fistulæ are usually lined by proliferations of the cells covering the surface of the cavities with which they communicate.

Ulcer formation results from some lesion previously existing in the patient, or from some defect in the method of treatment employed. A chronic ulcer is due to one of three causes—imperfect circulation, a specific infection or malignant tumor. The appearance of each variety is characteristic and the treatment consists in removing the underlying cause. We may use either excision of the tumor, disinfection with or without excision of the infected area; or excision, incision or some other method to improve the circulation in the first-named variety. The base of a chronic circulation ulcer is fibrous-scar tissue, formed by development of the granulation tissue. This scar contracts and compresses the blood vessels, more particularly the veins, thus interfering with the circulation of the more superficial layers of granulation tissue. The surface granulations become swollen, œdematous, purple in color, friable and bleed easily. This material is called œdematous granulation tissue. It is often *fungus,* a character that gives it the popular name, proud flesh. Excision of such an ulcer removes the fibrous base and gives a new surface for the formation of granulations. It is usually advisable to skin graft such areas after excision. Incision, on the other hand, should divide the fibrous tissue of the base in order to open areas for fresh reactive proliferation with new blood vessels. Bier's hyperemia (MARYLAND MEDICAL JOURNAL, December, 1906), either by means of the suction pump, hot-air bath or elastic bandage, helps by increasing the local quantity of blood. Stimulating applications, such as cantharidal collodion, tincture of iodine, balsam of Peru, etc., act by inducing hyperemia.

Studying fresh wounds with regard to their treatment, we must divide them into two great classes—the deliberate wounds made by the surgeon himself and accidental wounds. The first are made after proper precautions have been taken to prevent bacterial infection. The second are usually infected when they come to treatment.

The generally accepted present-day technique for preparing the patient and surgeon in order to make an aseptic wound is the result of many years research and development. Essentially the method depends on the mechanical cleaning of the skin by means of soap and water and the use of bichloride of mercury for its antiseptic action. Varying in different clinics, a number of substances are used between the soap and water and the mercury salt to remove the former and to assist in the penetration of the latter. The most common are ether and alcohol.

It is a well-known fact that these methods, however thoroughly carried out, do not reach the deeper layers of the skin and are, therefore, imperfect. The use of rubber gloves and the protection

of the skin by sterilized covers have made infection from this source almost negligible.

Grossich (*Centralblatt fur Chirurgie,* 1908, No. 44, p. 1289) has shown that tincture of iodine has remarkable penetrating power when applied on the dry skin. In the Fiume Hospital he has used the iodine method for several months, performing all manner of operations without any infection. Grossich's method is as follows: The patient is given a general bath the day before operation, and the field is shaved. At the time of operation the patient is brought on the table naked and the field painted over thickly with tincture of iodine by means of a sterile cotton swab. Grossich shows that the iodine must be applied to dry skin. Preliminary washing with soap and water so swells the epidermal cells that no penetration can take place. Sterile sheets are clamped to the skin around the field and the patient is then anæsthetized. The iodine is then applied again and the operation performed. When the wound has been sutured another painting with iodine is done, and this is repeated on the third or fourth day if the dressing is opened for any reason. The skin sutures are taken out on the seventh day. In the one case where I have used this method, slightly modified, I excised a sebaceous cyst from the malar region, and the result was entirely satisfactory. The hyperemia induced by the iodine, however, greatly increased the oozing at the operation.

The deliberate wounds of operation are either closed by careful approximation of the edges maintained by sutures or adhesive strapping, or the wound is left open to fill by granulation. When the wound is made through an infected area, or to remove pus, it is always left open, unless the entire infected area, together with its granulation tissue wall, is excised. The dressing of a closed wound is simple. Plain sterilized gauze to protect the part, held in place by bandage or adhesive, may be used. Silver foil applied directly to the wound and covered by gauze, or by collodion and cotton, makes an ideal dressing for a clean incision. The open wound requires more complex dressing. The cavity must heal from the bottom. When it is infected, as in the case of an abscess, this is very important. As a rule, gauze drainage or packing is employed. It may be plain sterile gauze, or medicated in various ways, namely, with iodoform, bismuth, mercuric chloride, etc. Gauze, especially when iodoformized, stimulates granulation tissue development. When used for drainage, care must be taken that the gauze is not packed in so tight that the infected material can not escape. Bier's investigations show that with his suction treatment drains are not necessary. This is important, because the insertion and removal of gauze is very painful. The protective dressing on a granulating wound should be so arranged that the wound secretion is absorbed, and at the same time precautions must be taken to prevent adhesion of the dressings to the wound edges. The removal of an adherent gauze dressing should be done

very gently, in order to conserve the delicate new epithelial cells at the wound borders. It is better to protect these cells by a layer of rubber tissue or by the use of an ointment, for example, boric acid and vaseline.

Balsam of Peru has recently reacquired its favor for wound dressing. At the German Congress of Surgery in 1907 (*Annals of Surgery,* 1907, Vol. 46, p. 924), Suter of Innsbruck attributed almost purposeful power to the balsam. He calls attention to its inclosing power, mechanically surrounding bacteria; the bactericidal power and chemotaxis, as well as to its action in preventing putrefaction in the dead tissues. My experience with balsam of Peru has been rather extensive, and while I am convinced of its usefulness, particularly for indolent wounds, I think part, at least, of Suter's good results are due to the fact that in studying the effects of the drug he was forced to give better general attention to his wounds. Careful dressing, local massage, frequent bathing and disinfection are all valuable aids in wound healing.

Pure phenol, followed by alcohol, is our most valuable disinfectant. The technique of its use always requires provision of the alcohol before the carbolic is taken from the bottle. Many uncomfortable accidents have resulted from delay incident to the search for alcohol after the phenol had been applied.

Bismuth paste, a mixture of bismuth subnitrate and various paraffines, has been brought out by Emil Beck (*Journal American Medical Association,* March 14, 1908) for treating sinuses, especially those from tuberculous bone disease. This method is extremely valuable, and his contribution should be read in the original.

Accidental wounds usually come to us already infected. Therefore, our efforts are directed toward removing and overcoming the effect of the invading bacteria. In these wounds we have the bacteria with the dead or badly injured tissues as foes of the body, and the healthy tissues as defenders. In removing the former our treatment must not interfere with or embarrass the reaction of the latter. This point probably has been best discussed in connection with the treatment of compound fractures. Bloodgood (*Progressive Medicine,* December, 1907) reviews the literature and gives his opinion, namely, that the treatment should be conservative; the wound protected while the surrounding skin is scrubbed and shaved; then the wound itself disinfected by means of pure carbolic and alcohol. (The iodine method of Grossich offers a suggestion that might prove useful in these cases.)

Concerning the further treatment, Bloodgood states that, other things being equal, the less operative interference the better. Large hematomas and tear pockets should be opened and cleansed; visible contamination washed out; pieces of bone removed unless their periosteal attachment insures their vitality. As a rule, bone fixation is contraindicated. "In a compound fracture the paramount objects in view are the proper cleansing and draining of the soft-part injuries."

WILLIAM H. WELCH, M.D., President.
MARSHALL LANGTON PRICE, M.D. Secretary.
HOWARD BRATTON, M.D. LOUIS A. GRIFFITH, M.D. JAMES BOSLEY, M.D.
DOUGLAS H. THOMAS, JR. Hon. ISAAC LOBE STRAUS.

Under the Direction of the Secretary of the State Board of Health

BETTER PAY FOR HEALTH OFFICERS.

AT the last meeting of the State Board of Health (January 13, 1909) the board placed itself on record in favor of better pay for local health officers. The following resolution was passed:

WHEREAS, The development of hygiene in the State of Maryland has imposed constantly increasing duties and responsibilities upon county and town health officers;

AND WHEREAS, The Statutes have provided only a small *maximum* salary for county health officers on the basis of population;

Resolved, That the Boards of County Commissioners in the several counties be requested to as far as possible allow to county health officers the maximum compensation provided and all necessary expenses incurred in the execution of their official duties.

AND WHEREAS, There is a popular demand for the efficient and thorough execution of the health laws of this State;

AND WHEREAS, The efficient execution of the health laws is one of the most important functions of local and State government;

AND WHEREAS, The present small maximum compensation provided for county health officers by law has proven a serious obstacle to the State and county authorities in the enforcement of the public health laws;

Resolved, That the Boards of County Commissioners of the several counties be requested to co-operate with the State Board of Health in fixing a satisfactory statutory *minimum* compensation for county health officers on the basis of population;

And Resolved, That the Secretary be instructed to transmit copies of this resolution to the Governor and to the county and town boards of health in this State.

The work of the Maryland Association for the Prevention and Relief of Tuberculosis has developed a strong sentiment in favor of increased and more effective work in hygiene, and it is generally felt that this result can only be accomplished by providing adequate compensation for health offi-

cers, not only in the way of larger salaries, but in meeting the expenses incurred by them in the execution of their necessary duties.

Under Chapter 475 of the Acts of 1902 (Section 25, Article 43, Code of Public General Laws), the salaries of county health officers are fixed on the following *maximum* basis, "not exceeding in counties having a population of 15,000 or less $150 per annum, with an additional allowance of not more than $50 per annum for each 5000 of population in excess of 15,000."

This act is almost unique in the history of legislation in fixing a *maximum* basis for compensation of local officials.

It is evident that the forms of the law could be complied with by paying the health officer a salary of 50 cents per annum, and any county inspired by the spirit of penuriousness could easily shirk all responsibility for the health of its people by failing to provide a salaried health officer. Obviously no county has a right to expect efficient service at $50 a year, and if it does expect it, it will and should be grievously disappointed. This salary, though it may appear intended for a practical joke, has actually been paid in some of the counties, and is now being paid in at least one of the incorporated towns. The average salary for a health officer in Maryland is little, if any, over $200 per annum. The highest-paid county health officer in the State is in Baltimore county. This official receives under a local law $1000 per annum, and has also a salaried clerk.

Naturally, the leading citizens who are responsible for the public awakening to hygienic necessities in the counties have immediately noted this fatally weak link in the chain, and it is purposed in one of the counties to pass a local law providing a salary of $1500 per annum for a local health officer and requiring him to devote all of his time to sanitary matters. Such a move should have the endorsement and support of the medical profession, but the true solution of the problem lies in providing a satisfactory minimum compensation for county and town health officers.

It must be remembered that the development of hygiene lies in any State largely with the local boards of health, and every effort should be made to support and develop such boards.

DUTIES OF LOCAL HEALTH BOARDS.

The question of disinfection, quarantine and many other matters relating to the control of infectious diseases are, with certain limitations, left in the hands of the local health boards (the County commissioners in the counties and the town councils in the towns). The law requiring disinfection of the premises vacated by the death or removal of a tuberculous person, however, makes disinfection mandatory upon local boards of health. Some of the local boards have neglected this law, mainly on account of motives of economy. Such an unloading of responsibility is manifestly unfair. The State has appropriated sufficient money to bear the greater part of the burden of the control of tuberculosis, and it is only fair that the counties should bear their lesser part.

In addition to the amount appropriated by the last legislature for the State Tuberculosis Sanatorium, $165,000 for building and $100,000 for maintenance

during 1909 and 1910, $5000 annually is appropriated to the State Board of Health to pay physicians for preventive measures and to furnish prophylactic supplies to consumptives. A subsidy of $15,000 per annum was also given the Eudowood Sanatorium for 1908, and a like amount for 1909. The cost of fumigating premises vacated by tuberculous persons would in no county exceed $1000 per annum, and, indeed, $500 would be a fair maximum figure. The question is not one of local expediency, as one negligent county can furnish the seeds of disease for the whole of Maryland.

DISINFECTION AFTER REMOVAL OF CONSUMPTIVE.

The State Board of Health is endeavoring, as far as possible, to secure the disinfection of apartments vacated by the removal of tuberculous persons, as well as those vacated by death. Disinfection after the vacation of apartments by the removal of consumptive occupants is made mandatory upon local health boards, as well as in the case of death from the disease. The statute also imposes a penalty upon the landlord who rents the premises occupied by a consumptive without their having been disinfected. Notices of removal are now sent out to local health boards, as follows:

To the Board of Health of.....
.....

The following apartments occupied by a consumptive have been vacated and are ready for disinfection in accordance with the provisions of Section 34J, Chapter 412, Acts of 1904 (Section 59, Article 43, Code of Public General Laws).

Name of patient.....

Apartments Vacated by Patient.
- Street address.....
- City or town.....
- County.....

MARSHALL LANGTON PRICE,
Secretary State Board of Health.

Dated.....19.....

INSTITUTIONAL CARE AND SEGREGATION FOR THE TUBERCULOUS.

The State Tuberculosis Sanatorium, near Sabillasville, Frederick county, is now caring for about 50 cases of incipient tuberculosis.

The Eudowood Sanatorium, near Towson, which has in the past been devoted almost wholly to the treatment of incipient cases, has, through the generosity of Mr. Victor Bloede, added a building to the institution for the care of 100 advanced cases.

The Jewish Home for Consumptives, near Reisterstown, cares for advanced consumptives only. The home was established largely through liberal donations from Mr. Jacob Epstein. Mr. Epstein and his committee are

largely to be credited with beginning the movement to care for the advanced consumptives, which is the present tendency in Maryland.

The only town, county or city government to establish a special hospital for the treatment of consumption is Baltimore city, which in 1904 built the present hospital, near Bayview.

The Baltimore county authorities have taken a very progressive stand in this respect, and contemplate the erection of tents or shacks at the county almshouse at Texas for the care of poor consumptives.

The importance of all these moves, especially that for the care of the advanced consumptive, cannot be overestimated, but the real field of battle still remains in the home, where it has always been. On this account the victory over tuberculosis lies in the hands of the physicians. The laws of Maryland provide for the official co-operation of physicians with the State Board of Health in the homes of tuberculous persons, and if all physicians carry their share of the responsibility, we may look for a notable fall in the death rate in succeeding years.

REGISTRATION OF TUBERCULOSIS.

Certain difficulties and complication arise in the registration of tuberculosis which are not met with in any other disease. These are due to the fact that tuberculosis is the only *chronic* infectious disease which is notifiable. Tuberculous patients, as a class, are prone to drift from one physician to another, and the last physician often neglects to register the case, in the belief that the case has been registered by the previous attendant. The latter assumes that the case will be registered by the present attendant, and in this way the case often goes unregistered.

It is the intent of the law that every physician attending a case of pulmonary or laryngeal tuberculosis shall register the case. In this way the health authorities can keep track of a patient, not only as regards his medical attendant, but also as to change of address, of which the law also requires notice. Another frequent cause of non-registration is waiting until the tubercle bacillus has been demonstrated in the sputum. While it is true that tubercle bacilli can be demonstrated in the sputum of nearly all but a few early incipient cases of pulmonary tuberculosis, not very infrequently it happens that the bacillus is not found after repeated examinations of the sputum of undoubted cases of consumption. The Board always gives precedence to the clinical over the laboratory findings, and issues supplies to all cases as soon as registered, although the law does not contemplate in such non-infective cases the prophylactic procedures provided by Chapter 399 of the Acts of 1904.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

JAMES BOSLEY, M.D., Commissioner.
C. HAMPSON JONES, M.D., Asst. Commissioner.
THOS. L. RICHARDSON, M.D., Asst. Commissioner, Quarantine.
J. W. M. KIGER, Secretary.

Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

TYPHOID FEVER FROM OTHER CAUSES THAN WATER.

IN the last communication from the Subdepartment of Health the various causes for typhoid were discussed, and the reasons for considering the water as causing some of the cases were stated. In the article by Dr. Price in the same number of the JOURNAL the relation of milk to typhoid fever was also discussed.

We have been able to trace several outbreaks of typhoid fever to the milk supply, and a few concrete examples of such epidemics are not out of place.

Several years ago it was noticed in a factory in Baltimore that an unusually large number of typhoid cases were developing among the employes. It was also noted that practically all of the cases developed among the women, while the men escaped. Upon further inquiry we learned that several hundred women obtained their lunch at the factory, and the only raw foods common to all were water and milk. The men also drank the water, but did not partake of the lunch in the factory. The milk was stopped as an article of diet and the outbreak ceased.

The Woodberry-Hampden outbreak was also an interesting example of milk-borne typhoid fever, and the following facts are a brief abstract from the report of Dr. Jones to Dr. Bosley in the annual report of the Subdepartment of Health for 1906:

In March the reports of the health wardens showed that a large number of cases of typhoid fever were developing among the patrons of one milkman at Woodberry. A convalescent from typhoid fever was later found in the dairyman's family. Upon tracing up the matter further it was found that the water was polluted on two of the dairy farms from which the distributer drew for a portion of his supply. A case of typhoid was then discovered above this farm, and the house drainage flowed into a stream which was used for cleansing the milk cans and utensils. About 157 cases devel-

MAP SHOWING POLLUTED WELLS AT HAMPDEN, WAVERLY AND HOMESTEAD. THE POLLUTED WELLS ARE INDICATED BY BLACK PINS. AND THE FIVE PURE WELLS BY A WHITE PIN WITH A BLACK RING.

oped during this outbreak, and nine-tenths of the cases occurred along the route of this one dairyman.

The milk was cut off from this source and the epidemic ceased.

In contrast to this case might be cited another, in which the source of the trouble was discovered before more than 10 persons had developed the disease.

It can be seen from these facts that the source of a group of typhoid cases needs special study, and a sanitary investigation must always be made before a correct opinion can be formed.

CONTAMINATION OF HYDRANTS IN YARDS.

In one case we were able, by laboratory methods, to trace a house outbreak of typhoid fever to pollution of the yard hydrant from an overflowing privy. One case of typhoid fever appeared in this house, and the urine and feces were not disinfected by 5 per cent. carbolic acid. Just at this time the privy overflowed, and during the next month every inmate of the house developed typhoid fever, and the house was closed and the cases taken to a hospital.

An examination of the water from the yard hydrant showed evidences of gross intestinal pollution. The specimen gave a bacterial count much larger than that of the city water, and large numbers of colon bacilli were found in the water from the hydrant.

RAW FOODS.

It is difficult to prove that the vegetables from the "Neck" in Anne Arundel county, which are manured with human night soil from our cesspits, actually cause typhoid fever. Numerous examinations have demonstrated intestinal pollution of these vegetables, which are often eaten raw. The danger is obvious, but up to the present time no typhoid bacilli have been found on these vegetables. This is due, however, to difficultties in laboratory technique, and there is some reason now to believe that recent methods will enable us to detect the typhoid bacillus more readily.

The same may be said of raw oysters. The colon bacillus has been occasionally found in raw oysters from certain oyster beds which supply the city. The relation of the pollution by sewage of shellfish to typhoid fever can only be solved by a careful sanitary survey of the various beds and the prohibition of beds near sewage disposal outlets, if such exist.

DRINKING WELLS.

There are several hundred drinking wells in the city, and many of these are to be found in the Thirteenth ward, in Hampden and Waverly. There is quite a high and evenly distributed typhoid morbidity in this district, and as there are few water mains there, this typhoid cannot be attributed to the city water. The subsoil in this area is so thoroughly saturated by the seepage from cesspits that a special study was made of this condition in 1906, and some extracts from the Annual Report for 1906 will explain this remarkable condition:

"EXAMINATION OF PUMPS AND WELLS.

"Following the outbreak at Hampden, all the wells in this community

were examined, and a large number of these were found polluted with the colon bacillus and to contain large numbers of bacteria. In 131 wells varying between 1 and 500 bacteria to the cubic centimer the colon bacillus was found 69 times, or in 52 per cent. of the examinations. In 52 cases varying between 500 and 1000 bacteria the colon bacillus was found 28 times, or in 53 per cent. of the cases. In 71 cases in which the bacteria were found to be between 1000 and 5000 or over the colon bacillus was found 48 times, or in 67 per cent. of cases. This shows that the colon bacillus is present more frequently in waters with high bacterial counts. Altogether, 254 wells were examined, and the colon bacillus was found 145 times, or in 56 per cent. of the cases. One well contained 9000 and another 10,000 bacteria, and the rest were 5000 or under in which colon bacilli were found. In the wells in which no colon bacilli were found 9000 bacteria were found once, 10,000 twice and 22,000 once, and the rest were 5000 bacteria per cubic centimeter or under. These wells were all within an area of about three square miles, and the actual area of polluted wells is about two square miles. The chemical examination of these wells showed that almost the entire area must have been polluted by the seepage from the many privy wells found in this section.

"CORRESPONDENCE BETWEEN CHEMICAL POLLUTION AND THE PRESENCE OF THE COLON BACILLUS.

"Most of these wells contained an excessive amount of chlorine, ammonia, nitrates and nitrites, and yet in some cases in which the chemical pollution was marked the bacteriological examination failed to show the presence of the colon bacillus. Of course, chemical materials in solution can travel further in the soil than the particulate bodies of bacteria, and it is, therefore, of some interest to compare the presence of marked chemical pollution with the presence or absence of the colon bacillus.

In 161 wells the chlorine was over 10 parts per million and the colon bacillus was found in 124 wells, or in 77 per cent. of cases. This bacillus was not found in 37 instances, or in 22 per cent. of cases. In only 9 cases was the chlorine under 10 per million, and in all of these cases the colon bacillus was present. The percentage is, therefore, higher in water with chlorine under 10, but this cannot be regarded as reliable, owing to the small number of wells with chlorine under 10. Nitrites were found in 166 wells and the colon bacillus was demonstrated in 125 instances, while it was absent in 41 cases, a percentage, respectively, of 74 and 26. In 36 wells containing no nitrites the colon bacillus was present 26 times, or in 77 per cent. of cases, while it was absent in 8 instances, or 23 per cent. of the wells examined. It has generally been regarded that water containing nitrites would necessarily contain the colon bacillus, but these results show that water can often contain the chemical results of intestinal pollution without containing the colon bacillus. These organisms must be filtered out in the compact layers of the soil.

"In 154 wells examined the nitrates were above 5 parts per million 120 times, or in 77 per cent.

"In 154 wells containing over 5 parts of nitrates per million the colon bacillus was present 120 times, or in 77 per cent. of cases, and it was absent 34 times, or in 23 per cent. of the cases. In 44 wells in which the nitrates were 5 parts or under the colon bacillus was present 34 times and absent 10 times,

a percentage of 77 and 23, respectively. This is the same percentage of positive and negative tests for colon as that shown in the wells over 5 parts per million.

"Free ammonia should not be above 0.05 per million, and in 49 wells it was over this figure. In 38 of these, or in 77 per cent. of cases, the colon bacillus was present, and it was absent in 11, or 23 per cent. of instances. In 149 wells the free ammonia was under 0.05 per million and the colon bacillus was present 117 times, or in 71 per cent. of cases, and absent in 32 instances, or in 29 per cent. of cases.

"The photograph of the map which follows shows the situation of the wells. Almost all of these wells show gross pollution, and the grouping of so many wells in so small an area showing such concentrated pollution presents a remarkable condition. In the outbreak at Hampden some of these wells were closed, and, although the outbreak ceased after an infected milk supply was stopped, yet it might have been continued by the infected water unless many of these wells had been closed. The light pins, of which there are only 5, show the unpolluted wells, and the dark pins, of which there are 158, show the remarkable pollution of the entire subsoil in the district."

It would seem from these facts that the continuance of typhoid fever in this district was due to the water from many of these polluted wells. In the next communication the subject of typhoid fever in Baltimore will be concluded, with a consideration of flies and carrier cases in relation to this disease.

WM. ROYAL STOKES.

ON THE WITNESS STAND. By Hugo Münsterberg. New York: McClure Company. 1908.

To many physicians, immersed in the practical, psychology seems too indefinite, too frivolous for serious consideration. Yet every honest effort to understand human life should receive respectful attention. It may not be our way of investigation, the subjects may not be of life and death importance, yet it has its place in science.

The attractive little volume before us deals with the more practical side of its science as applied to witnesses in court trials where life and death are in the balance. It demonstrates the almost incredible fallacy of the human memory; it shows how psychologic processes can be brought to bear on the detection of crime; it discusses the relation of the emotions on the breaking down of secretiveness, especially with reference to the good and evil qualities of that modern system of police torture known as "the third degree," and to the extraordinary dissociation and autosuggestion which leads certain innocent persons to confess participation in crimes of which they are accused.

Chapters on hypnotism and crime and on the prevention of crime complete the book. The means suggested for prevention are interesting, the psychologist arriving at the same conclusion as that on which the Christian worker has long insisted—that an understanding of human sympathy, full confession and the instillation of hope are the great forces of reform of the actual criminal.

MARYLAND LUNACY COMMISSION

ARTHUR P. HERRING, M D., Secretary.

HENRY M. HURD, M.D. HUGH H. YOUNG, M.D. JOHN D. BLAKE, M.D
R. MARKLEY BLACK, M.D. ATTORNEY-GENERAL ISAAC LOBE STRAUS, ex-officio.

This Department is Under the Direction of the Secretary of the Commission

PUBLIC MEETING HELD IN INTEREST OF STATE CARE FOR INSANE.

AT a meeting at McCoy Hall held under the auspices of the State Commission in Lunacy, January 20, 1909, for the purpose of arousing public interest in the question of State care for the insane, the principal addresses were made by Drs. Adolph Meyer and Arthur P. Herring.

We quote the following from Dr. Meyer's speech:

"What has the State got to meet in the case of those afflicted with mental disorders? We are today confronted with the problem of so-called State care in this State. That is but part of the whole problem. What is the specific problem? It is the nature of the diseases, with their particular effect on the legal status of the patient, that has led to the demand for a monopoly by our most impartial and most circumspect agency—the State—in the form of complete State care, and under these circumstances the State must become equal to a tremendous responsibility, and especially so under our modern conceptions of what the fight against relatively chronic diseases mean. Not only must the State or the public provide for the best possible medical treatment and for the physical welfare and comfort of its large number of patients, but it must strive to make its institutions centers of progress, which must be concerned not only with meeting emergencies of the day, but with the more far-reaching problems of prophylaxis and the stemming of the tide of increase. The institutions for the insane must, indeed, become the nucleus of a far-reaching work for social and individual mental hygiene and mental readjustment."

Dr. Herring expressed his views as follows:

"The consideration of the unfortunate element in our population should receive first attention. We must look at the economical side of the question with a view of producing its best results at a minimum cost. Humanity, however, should have the first consideration. The dictates of humanity demand that the insane shall be amply provided with everything which medical science has determined to be essential to the recovery of those who are recoverable.

Of all the diseases which afflict mankind, insanity is by far the most frequent, most widely prevalent and the most far-reaching in its effects. The vast majority of its victims must be deprived of personal liberty or removed from their homes. Among the dependent insane are to be found numerous

Almshouses in Maryland

TWO SMALL FRAME BUILDINGS FOR SIX PATIENTS. GENERAL CONDITIONS FAIR.

FRAME BUILDING, ONE AND A HALF STORIES HIGH, FOR BOTH RACES AND BOTH SEXES. GENERAL CONDITIONS FAIR.

representatives of all professions, trades and occupations, whose financial, social and intellectual status may have been of a high order and most of whom were respectable, self-supporting citizens."

Dr. Herring showed stereopticon views of the almshouses in the counties of Maryland and the State institutions, showing the marked contrast between the two systems of caring for the insane. The final screens shown were a brief résumé of the advantages to be gained by State care.

The main corridor of McCoy Hall was filled with exhibits of work done by patients in the insane hospitals of Maryland. The exhibition is very creditable and is the first affair of the kind ever held in this country, so far as we are able to learn.

Society Reports.

ABSTRACTS FROM MINUTES OF THE MARYLAND PSYCHIATRIC SOCIETY.

THE second meeting of the Maryland Psychiatric Society was held at Spring Grove Hospital on Tuesday, January 19, 1909.

Dr. W. R. Dunton, Jr., read a paper upon "Statistics and Classification of the Insane," which was followed by considerable discussion upon the advisability of a classification of mental diseases to be used in reporting cases to the Lunacy Commission.

A resolution was offered by Dr. W. P. Sprattling to the effect that a committee of three, including the secretary of the commission, should be appointed to formulate a classification to be presented to the society at its meeting in April. The motion being carried, Drs. Sprattling, Herring and Clark were appointed.

Further discussion upon the subject of classification and restraint cards followed, after which the meeting adjourned to meet at Springfield State Hospital in April. WILLIAM RUSH DUNTON, JR., *Secretary.*

COUNTY SOCIETY MEETINGS.

The Frederick County Medical Society has announced the following program for post-graduate study for its meeting on February 10, 1909, at 2.30 P. M., in the Y. M. C. A. building, Frederick, Md.:

(1) Anatomy of Joints, — Dr. H. S. Hedges.

(2) Diseases of Joints, Etiology and Diagnosis,
- a Synovitis { Chronic / Acute } — Dr. Crum.
- b Infective Arthritis, — Dr. J. G. Thomas.
- c Wounds and Sprains, — Dr. Conley.
- d Tuberculosis of Joints, — Dr. Poole.
- e Loose Bodies in Joints, — Dr. Kefauver.
- f Treatment of Above, — Dr. McCurdy.

Discussion, Drs. Leib, F. H. Hedges, Kable.

Later meetings will be held on March 10, April 14 and May 12, programs of which will be published in the JOURNAL.

THE JOHNS HOPKINS HOSPITAL MEDICAL SOCIETY.

MEETING HELD JANUARY 20, 1908—DR. NORTON PRESIDING IN THE ABSENCE OF DR. FINNEY, PRESIDENT OF THE SOCIETY.

I. *Exhibition of Cases*—Dr. Miller.

The speaker reported the history and result of a pericardiotomy done on a boy seven years old. The patient was admitted to the hospital with a history of having had fever for about two weeks, some pain in the chest and dyspnea. Twenty-four hours before admission the patient developed edema of the face and ascites. At this time the patient's brother had scarlet fever, but he himself had no eruption and seemed to be free from this disease.

On admission the boy's leucocyte count was 17,000, and a diagnosis of right-sided pleurisy and pericarditis with effusion was made. Four days later 380 c. c. of turbid fluid were aspirated from the right chest. Six days after admission 400 c. c. of turbid fluid were withdrawn from the right chest and 28 c. c. from the pericardium. After a few subsequent tappings of the chest and pericardium it was resolved to lay open the pericardium. Since the boy had a right-sided empyema it was important to preserve the left pleura. The fifth costal cartilage on the left side was accordingly resected, the triangularis sterni muscle and the internal mammary artery pushed aside and pericardiotomy performed. The wound was treated by free drainage. On the following day, on account of the very marked dyspnea, the sixth rib on the right side was resected and much turbid fluid evacuated.

The boy got along perfectly well for two weeks, when an osteomyelitis of the sternum developed. This was operated on. There was marked post-operative shock, and the following morning at 4 o'clock the patient had a severe hemorrhage from the pericardial sac. The active hemorrhage was controlled by larger injections of morphia and by plugging the wound in the chest and holding the chest wall for 40 minutes.

Since then there have been two more hemorrhages. The pericardium is now full of blood and the clot has plugged up the opening in the anterior wall of the pericardium, reproducing a closed pericardial sac. Exertion, such as coughing, has been followed by a large gush of fresh arterial blood from the wound. The general treatment has been expectant and large doses of morphia have been constantly administered. The child has lived 17 days since operation, which in itself is hopeful.

Roberts has reported 35 cases of suppurative pericarditis treated in this way. Fifteen recovered, 10 died of septicemia and 10 died of various post-operative complications. Dr. Miller was able to find only one other case reported which was complicated by hemorrhages, and here the bleeding came from fresh granulations in the pericardium. This case died five days after operation.

II. *An Analysis of Cases of Empyema Occurring in the Course of Lobar Pneumonia*—Dr. MacCrae.

It is no more clear why empyema appears in connection with lobar pneumonia than why it fails to occur. In view of certain statistics that give the

pneumococcus as being found in the pleura in 100 per cent. of pneumonia cases one would expect to find empyema more frequent. Since patients do not vary so much, while there is a wide range of complications, the more likely explanation of the cause of empyema lies in the particular virulence of the organism concerned. The statistics from old hospitals indicate that empyema is on the increase. At the Johns Hopkins Hospital there have been to date 805 cases of pneumonia, 29 of which developed empyema—a proportion of 6.6 per cent.

The speaker considered empyema in a vast majority of cases rather a complication than a sequel of pneumonia—a conclusion based on the facts that autopsy revealed empyema in certain cases dying of pneumonia and that in the greater number of cases fever is more or less continuous. Of the 20 cases, 6 occurred in children under 10 years, while the largest number were in patients between 20 and 30 years of age. No predisposing factor was evident. Twenty-two of the 29 cases yielded positive bacteriological cultures. Of these, 20 were of pneumococcus and 2 of streptococcus. Usually the character of the attack of pneumonia was serious. In all but three cases more than one lobe was involved, and in every instance there was consolidation of the lower lobe. Empyema never occurred on the side opposite to the pneumonia.

In no case was there any clue to indicate the onset of the empyema. Apart from physical signs, the thing that first attracted attention was continuance of the fever. In 20 the temperature was never normal; in only 2 was it normal for 24 hours or more.

So far as general features go fever was the most constant symptom met with. The fever was irregular in type, usually 102° to 103°, sometimes remaining high and in other cases tending to drop. In a few cases after crisis there was sudden distress and dyspnea. The pulse showed much variation and nothing characteristic. The leucocyte count was of no great value in diagnosis. In all cases there was marked leucocytosis. A feeling of resistance to the palpating hand was the most important physical sign. This often suggested fluid when other signs were all against it. Vocal fremitus was retained to a greater or less degree in 15 cases, and the presence of this sign often led to delay in aspiration. Several cases showed a slight clearing, followed by dullness; only one showed movable dullness. In only five cases were the breath sounds abolished; in 22 they were diminished. In no instance was there displacement of the heart.

All in all the problem of concurrent pneumonia and empyema is not a simple one and is very different from that in ordinary primary empyema. We cannot depend on the ordinary signs of fluid in the thorax, and Dr. MacCrae is of the opinion that we should resort to the needle for diagnosis. The needle should be used again and again if necessary, for often nothing is obtained by only a few punctures. It is very likely that the amount of fluid is comparatively slight, and it is not easy to strike a small layer of fluid. Only one case was recognized in the first week, while seven were diagnosed in the second and 10 in the third week.

The mortality in these cases was 24.1 per cent. Two died of pneumonia and one of septicemia (streptococcus) 13 days after operation. In all the remaining cases that died there was some complication, such as pericarditis, pericarditis and meningitis, endocarditis and meningitis, or myocar-

ditis. With earlier recogntion of the empyema perhaps the complications would not have occurred.

In summarizing the speaker emphasized the points that empyema in the vast majority of cases is present at the time of the pneumonia; that early diagnosis is important; that, on account of the anomalous physical signs, needling is an important diagnostic measure; that with early operation patients usually recover quickly and are left with an intact thorax, and that those patients in this series who have been followed since leaving the hospital have done surprisingly well.

DISCUSSION.

Dr. Futcher: We ought all have impressed upon us the fact that empyema is a complication, and that we should be on the lookout for the development of an effusion in the course of pneumonia. If an effusion does occur, it will very probably be a purulent one. You will remember how Dr. Osler used to impress upon us the causes for the continuance of fever after pneumonia. These were, first, on account of empyema; secondly, on account of delayed resolution; thirdly, because of a mistaken diagnosis of what later turned out to be a tuberculous broncho-pneumonia or phthisis florida; fourthly, on account of the possibility of more distant complications, like pneumococcus arthritis or meningitis.

III. *A Clinical Study of the Alkalinity of the Blood*—Dr. Strouse.

The author discussed briefly the chemical nature of the blood, emphasizing especially the lack of exact knowledge of this subject. The alkaline reaction of the blood is not due to sodium hydrate, but depends probably on the presence of sodium carbonate and sodium phosphate. The clinical methods of measuring the alkalinity in use have been inexact, owing to technical difficulties, and the results published so far have not been of any real value. In this work Dr. Strouse used a modified method of capillary pipette titration as described by Moore and Wilson. In about 75 cases studied his experiments show that changes in the amount of neutralizable alkali occur in various diseases; that these changes are not constant and bear no positive relation to the clinical picture.

In view of these results and the extreme variations found by other men the speaker thought that these variations are not specific to any disease, but that they indicate a disturbance in the individual, probably due to altered oxidation. So far the clinical study of the alkalinity of the blood has not given results of even empirical value. Such studies will not yield conclusions of practical importance until we have a definite knowledge of the causes of the relatively slight changes in the alkalinity seen in disease.

DISCUSSION.

Dr. Boggs: In this work that Dr. Strouse has reported I was convinced that results of delicacy could be acquired when the experiments were done by one person. I am convinced that Dr. Strouse's investigations have shown that we can expect little or nothing as to diagnosis by these methods.

Dr. Voegtlin: Dr. Strouse deserves credit for destroying facts that have been regarded as well established. Most textbooks are very positive in their statements about the alkalinity of the blood. Recent work on the problems of immunity has shown that salts, bases, acids, etc., have great influence on the growth of bacteria, and it seems worth while to work out some good method for obtaining accurately the degree of alkalinity of the blood.

Book Reviews.

Manual of Clinical Chemistry. By A. E. Austin, Professor of Medical Chemistry and Toxicology in the Medical Department of Tufts College, Boston. Price $1.75. Boston: D. C. Heath & Co.

The publishers claim that the author has here presented to the medical public a *new kind of chemistry,* designed to make chemistry the handmaiden of clinical medicine. It is certainly desirable that the medical student should not be burdened unnecessarily with abstruse scientific details which will never be of any practical value to him. In the volume before us the author has sought to combine the practical and the scientific in the exact proportion which from his teachings to his class, covering many years, he has learned to consider most desirable. It is especially suited to the second year of medical study. He has made a very lucid and readable book and an extremely handy one also for the laboratory.

Throughout each chapter, following each subject of study, there are experiments inserted in smaller type. The illustrations are very good, many of them colored, and in the appendix is given a list of the re-agents used and directions for the preparation of those which are more composite.

A Textbook of the Practice of Gynecology. By William E. Ashton, M.D., LL.D. Philadelphia and London: W. B. Saunders & Co.

This large work treats of the whole subject of gynecology in a very complete and satisfactory manner, and a large number of questions are considered which are generally not taken up in books of this nature. The book is profusely illustrated, and while many of the illustrations are semi-diagrammatic, it should nevertheless prove very helpful to both the specialist and the general practitioner. The book is one that can unquestionably be recommended to anyone interested in this field.

Practical Life Insurance Examinations, with a Chapter on the Insurance of Substandard Lives. By Murray Elliott Ramsey, M.D. Philadelphia: J. B. Lippincott Company. 1908.

Life insurance examination has developed into a specialty of medicine, and with the insurance of substandard lives, which is certain to become more and more common, the specialization of life insurance will grow in the future in definiteness. As the writer says, "the fulfillment of the utilitarian conception of the aim of life insurance is not accomplished until some form of protection is offered to the families of those who are unfortunate in being the possessors of an unsound or impaired body. It is in this ultimate presentation of these cases that the personality of the examiner enters so largely, for, after all, these cases must be judged individually, and the examiner's ability to properly recognize the impairment by the finer shadings and diagnosis and his judgment of the probable effects on the after life of the applicant are desirable qualities." The main part of the book, dealing with the ordinary examinations for life insurance, is written in an extremely practical and attractive way, being based upon many years' experience by the author.

Particular attention has been directed to the physical diagnosis and the prognosis of diseases of the chest and abdomen, for these regions constitute the seat of the organs and structures which enter most vitally into the welfare of an insurance company.

The Diagnosis of Diseases of the Nervous System. By Christian A. Herter, M.D., Physician to the Class of Nervous Diseases, Presbyterian Hospital Dispensary. Pp. 617. New York: G. P. Putnam's Sons.

In reviewing a book on nervous diseases written seven years ago one cannot help feeling the uselessness of the task. The general arrangement of the subject-matter, which is "designed to aid the student and general practitioner in the recognition of the commoner forms of nervous diseases," is adequate and clearly expressed. The chapter on symptomatology should be helpful to those not familiar with neurological symptoms and aid them in arriving at a diagnosis. The book has been well planned, and if brought up to date would no doubt find a place in neurological literature of some importance.

Essentials of Obstetrics. By Charles Jewett, M.D., Professor of Obstetrics and Gynecology in the Long Island College Hospital, Brooklyn, N. Y. Third edition, thoroughly revised; 12mo, 413 pages, with 80 engravings and 5 colored plates. Cloth, $2.25 net. Philadelphia and New York: Lea Bros. & Co.

We find this little book well adapted to the purposes for which it was published—as an introduction to the more elaborate treatises and as a guide in following the didactic and the practical teaching of the college course.

As a handy reference book for the doctor's buggy or office table it will prove very convenient, enabling him in a moment to refresh his memory on important points.

Lectures on Principles of Surgery. By Stuart McGuire, M.D., Richmond, Va. Baltimore: Southern Medical Publishing Co. Cloth. $4 net.

This modest little volume, containing as it does the very latest views upon the principles of surgery, will be found an invaluable guide to students and general practitioners. Of special importance is a chapter on immunity. Here we have in simple, concise form a brief history of the early ideas on and the present conception of immunity. Illustrations would have added to the value of the book.

Medical Gynecology. By Samuel Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 600 pages, with 135 original illustrations. Philadelphia: W. B. Saunders Company. 1908. Price $5 net.

Gynecology has so largely fallen into the hands of the surgeons of late that the needs of the medical practitioner in this department have been quite insufficiently met. Many a general physician has been watching for

a new book which should take up authoritatively to date the gynecological problems of his daily rounds short of surgery. The attractive work before us, we believe, exactly meets this need. It is very thorough, very scientific and still views the subject through the eyes of the physician. Broad and thorough consideration is given to each subject discussed, and the author does not forget, as so many do, to give prescriptions and applications in abundant detail where they are needed. The physician will do well to place the work as a daily guide upon his library shelves.

Medical Gynecology. By Howard A. Kelly. New York: D. Appleton & Co.

The simple announcement that Dr. Kelly has written a book on the medical aspects of the diseases of women is sufficient. Everyone who knows his enthusiasm and thoroughness will at once desire a copy, for a man of such large hospital experience must have learned a great deal about the medical aspects of his cases, especially if, like our author, he knows enough to know that surgery is not a cure-all for feminine distresses.

It represents, of course, the thoughts of a surgeon—Dr. Kelly in his less strenuous moments, as it were—but they are deep, broad thoughts, worth thinking after him. On a number of subjects he has incorporated articles from other good workers of Baltimore and other cities. Special attention is given to the conditions, domestic and other, which have to do with the inception or persistence of the disorders under discussion.

A feature of the book is the beautiful and abundant illustration of the text by Dr. Kelly's admirable sketch-artists.

The book is sure of a large welcome from the author's personal friends and pupils and from the profession in general.

A Dictionary of Medical Treatment for Students and Junior Practitioners. By Arthur Latham, M.D., F.R.C.P., London, Physician and Lecturer on Medicine at St. George's Hospital, etc. Price $2 net. Philadelphia: P. Blakiston's Son & Co. 1908.

An excellent handbook for students and junior practitioners. It aims to give a definite course of treatment for any disease commonly seen in medical as distinct from surgical and special practice. The subjects are taken up alphabetically for more easy finding. Discussions as to causation and the like are omitted, the whole attention of the writer being given to treatment. So true is the author to this purpose that in the last disease discused—yellow fever—he does not even permit himself to refer to the agency of the mosquito in the causation of yellow fever and the necessity of screening the bed. The publisher's work, as in other English books, is excellent, and the flexible cover gives added attractiveness.

Principles and Practice of Physical Diagnosis. By John C. DaCosta, Jr., M.D., Associate in Clinical Medicine, Jefferson Medical College, Philadelphia. Philadelphia: W. B. Saunders Company. Price, cloth, $3.50 net. Baltimore: Medical & Standard Book Company.

During the past few years a large number of new books on physical diagnosis have come to the notice of the reviewer of the above work. It would

hardly seem there was a field for another such book, but when one looks through Dr. John C. DaCosta's production, with its 523 pages of easy reading and highly instructive matter, and sees the 212 original illustrations, we can only give it the highest praise and predict the book will take a leading place as a textbook on this important subject. In the hands of the undergraduate it will be most valuable; the general practitioner will find it most useful, and even instructors in medical clinics can gather many new points of value from its pages.

A Treatise on Surgery. By George Ryerson Fowler, M.D. Vol. II. Philadelphia and London: W. B. Saunders Company.

This volume contains the articles on the Surgery of the Dorsal and Lumbar Vertebrae, of the Abdomen and Pelvis, of the Female Pelvic Organs and of the Extremities, together with the index. It is a large book, plentifully illustrated. Most of the pictures are very good; some, however, seem unnecessary.

In reviewing the book most attention has been paid to the chapters on Abdominal Surgery. This study, we regret to acknowledge, leaves us unsatisfied. Especially after reading the article on peritonitis and perforation of the viscera we feel that the work does not come up to our expectation. The entire treatment of the subject is too condensed and unfinished. In comparison with Murphy's article on the same subjects this part of the book is very poor. The use of cathartics in the treatment of peritonitis is not the best teaching. The author recommends flushing out the cavity in peritonitis. So much has been said and written both for and against washing out the peritoneum that the host of explanations only causes confusion, and each one pursues the method that has given the best results in his own hands. We therefore differ with Fowler on this point, and believe that flushing out is at least an unnecessary proceeding.

The elevated head and trunk position that has become popularly known by the author's name is pictured and the method for obtaining it described. Curiously enough, we feel that better descriptions have been given elsewhere and that the position can be maintained more comfortably by other methods than those illustrated. There is no mention made of the use of salt solution, given slowly by the rectum, as advised by Murphy—a point in the treatment of peritonitis that we have come to look upon as essential. The diagnosis of perforation of gastric ulcer, as it is given in the text, is inadequate and not clear.

There is not enough stress laid on the value of enterostomy and the emptying of the bowel in intestinal obstruction, especially in the late cases. Washing the stomach before operation in these cases is not mentioned, nor is there any note on acute dilatation of the stomach and the value of lavage in this condition.

The diagnosis and treatment of appendicitis is well given. We are glad to read that "palpation of the appendix is delusive in healthy conditions of the organ and dangerous in diseased conditions."

The only operation advised for anal fistula involves cutting the sphincter. This can usually be avoided and a better result obtained by the dissecting and turning-in operation. The chapters on hernia are for the most part

good and well illustrated. We do not think that the presence of the cord in the canal is an important cause of relapse in hernia. A good suture of the abdominal wall in layers is the important factor in permanent cure. When dealing with the difficulties of closure in cases where the conjoined tendon is deficient no mention is made of the use of the sheath of the rectus, as advised by Dr. Halsted. This method, combined with the rectus-muscle transplantation devised by Bloodgood, is so valuable, and especially in treating recurrent herniae, that its omission is a grave one.

There is no mention made of the use of tuberculin for diagnosis.

The consideration of tumors is indistinct everywhere. The directions for recognition of cancer of the penis are not of much value. The after-treatment of prostatectomy is dismissed in six lines. Considering the fact that the after-treatment of these men is almost as important as the operation, it should be given in great detail. Fowler's, however, is not the only book that falls short in this respect. It is the common criticism of all books on genito-urinary surgery.

The chapters on fracture are only fair. Many of the descriptions would be improved by X-ray pictures. In the treatment of fracture of the neck of the femur several more or less complex methods are described, but no mention is made of Whitman's relatively simple and extremely valuable treatment.

Most of these objections seem to be due either to difference of personal opinion or to the results of condensation. To bring even a small part of surgical knowledge into the confines of a book is a severe task, and when an author gives us his ideas of general surgical practice in two volumes we must expect parts of the work to show pressure. This is the condition we face in choosing between a system of many authors edited by a master and the work of a master alone. No surgeon is omniscient, and we must not look for all wisdom in any man's book. Many men prefer the unaided opinion of a single author to the overlapping of several in collaboration. To these we recommend Fowler's Surgery. Probably the most vital fault in the book is the absence of references. Credit is given to individuals in the text, but there is nowhere a hint as to the location of the original communication. The way to overcome the evils of condensation is by giving good references to complete articles. Da Costa's Surgery, a much smaller book than this volume of Fowler's, is really much more complete and gives more far-reaching information on account of its extensive references.

Metabolism and Practical Medicine. By Carl Von Noorden. Vol. III. W. T. Keener & Co. 1907. Price $2.50 net.

The subjects taken up in this volume, under the pathology of metabolism, are discussed in detail, and in each instance the literature is carefully reviewed with bibliography up to the date of publication. The book is not only of value to the practitioner of medicine, but should also prove of great assistance to the advanced student doing research work along the same lines. Those not familiar with the German language should feel grateful to I. Walker Hall of University College, Bristol, for placing within their reach this work of advanced medical thought. C. W. L.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D., *Editor*

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BALTIMORE, FEBRUARY, 1909

THE ADULT BLIND.

THE care of the adult blind is rather a social than a medical matter, after the blindness has become fully established. There is associated with it, however, one symptom that appeals to the physician therapeutically—the deep melancholy which settles down upon the mind of the afflicted one. He cannot earn a living; he has no incentive to physical activity; he sits at home fretted by the knowledge that others must support him. Only those who have faced life-failure themselves have any conception of the "horror of great darkness" which besets an active adult under such a calamity. Thoughts of suicide are inevitable. The slow year-long approach of blindness is perhaps more maddening even than its sudden onset.

Our State and city have done much for blind children, although the efforts of physicians to control ophthalmia neonatorum and its midwife allies have had but little effect; but for the subjects of our present interest, those who have become blind in adult life, almost nothing has been done until the present year, except as voluntary work by the School for the Blind. This admirable institution (private, with per caput from the State for pupils unable to pay) has, through one of its teachers, sought out within necessary limits the adult blind at their homes with very helpful results. This teacher found a number of blind adults living in dependence at their homes, morbid and hopeless, and by explaining to them the possibilities still before them in life, and giving them instruction, has led them into self-supporting employment and consequent happiness. A member of our own profession, threatened with blindness in middle

life, can testify to the helpfulness of this teacher's work. Three adults were found in Bayview, condemned to idleness for years, one of them a man not yet fifty, who are now happy in the pursuit of sightless occupations.

In the recent conference at the Johns Hopkins, under the auspices of our School for the Blind, many interesting and surprising facts were brought out. France has been the pioneer in this good work, with a showing of 15 blind organists in Paris alone. Austria follows close, with a specialty of blind dancers. Sweden boasts of her blind carpenters. England and Scotland have done much for this unfortunate class of citizens.

A most interesting feature of the above-mentioned conference was an address by a young society woman, who, with her sister, began the good work by inviting the adult blind, for instruction and for cheer, to her home, and thus organized the New York Association for the Blind, whose motto is "Light Through Work." One of the most impressive illustrations of her lecture represented a fine sculpture by a blind man of a lion. The sculptor felt the lion over until he had caught the contour and mass-jut so accurately that one would not know his work was sightless. This illustrates the enthusiasm with which an adult blind will enter into a scheme of real usefulness put within his reach.

The baneful influence of blindness upon the mind is strikingly shown by a little boy at our School for the Blind, who was supposed to be idiotic and spent his life mostly in the cellar of his home with a pet dog. He is now making respectable progress in the reading of point letters, and is always gleeful when the name of his little dog comes under his fingers.

In our Baltimore school it is found that piano tuning is the best paying trade. Our great factories have a number of blind thus employed, some of them at salaries not very far from $1000 a year. Broom-making is the best average trade, fine quality being a specialty. Massage has great possibilities, not yet developed in this country. For women, fancy work, sewing and bead work are most recommended. Cooking and housework are said to be done by some trained blind in their homes. Massage offers great earning opportunities. Training gives great self-confidence, and with this mental initiative and cheerfulness increase. For not-quite blind there is a remunerative career as teacher of the blind.

The Pratt Library mails free (to and from) on the ordinary

application for circulating books a very large number of interesting and instructive books to all parts of Maryland in New York point and line letter. Sacred literature for the blind is furnished free by an endowed organization in New York. Our School for the Blind has a large assortment of point music, which is cheap to buy and easy to copy.

The last Legislature appropriated $5000 for opening a workshop where the adult blind might become self-supporting, with another equal sum for next year. This is very commendable as a beginning in a good work long ago established in wealthier States.

GEN. GEORGE H. TORNEY.

Maryland has been honored by the promotion of Brig.-Gen. George H. Torney, Medical Corps, United States Army, January 14, 1909, to the position of Surgeon-General, vice Robert M. O'Reilly, retired.

General Torney's career has been exceptionally brilliant and distinguished. He is a "great man" in every sense of the word, and the army is to be congratulated that it has a man of such caliber for the position.

General Torney is a native of Maryland, having been born in Baltimore June 1, 1850. He entered the army as first lieutenant and assistant surgeon, Medical Corps, U. S. A., June 26, 1880. Among the important offices filled by him during his long and honorable career in the Medical Corps are Commander of Army and Navy General Hospital at Hot Springs, Ark.; of the First Reserve Hospital at Manila, P. I.; of the Medical Supply Depot at San Francisco, and of the Army General Hospital at the Presidio, San Francisco. During the San Francisco earthquake and fire he was in charge of the sanitary work in the stricken city. The record of General Torney leads us to believe that the high state of efficiency attained by his predecessor will be maintained during his tenure of office.

REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE DECEMBER (1908) EXAMINATIONS.

PRACTICE.

1. Define (a) Endemic disease. (b) Vocal Fremitus, and state its significance in pulmonary diseases. (c) Argyll-Robertson pupil, and name the disease in which it is one of the diagnostic symptoms. (d) What is the significance of the patella reflex as a sign of disease? (e) What is the diagnostic significance of Cheyne-Stokes respiration?

2. (a) What are the characteristic symptoms of Grave's disease? (b) Give the differential diagnosis between catarrhal pneumonia and croupous pneumonia. (c) Between gastric cancer and gastric ulcer.

3. (a) How would you treat acute nephritis accompanying or following scarlet fever? (b) How would you treat herpes zoster? (c) Describe treatment of acute inflammatory articular rheumatism.

4. Give differential diagnosis between spasmodic and membranous croup.

5. How would you diagnose and treat intestinal perforation in typhoid fever?

6. Differentiate between neuritis and neuralgia.

PATHOLOGY.

1. (a) Give the gross pathology as regards the lungs of acute miliary and chronic ulcerative tuberculosis, respectively. Describe in detail the method of staining the tubercle bacillus in the sputum. (b) Give the gross pathology of two diseases of the urinary tract associated with hematuria. Give in detail the method of staining of the organism, if any, associated with each. (Candidate may answer either question (a) or question (b) above, but must not answer both.)

2. Give the gross and microscopic pathology of the disease you would expect to find in an elderly woman suffering from an offensive bloody vaginal discharge.

3. Explain what is meant by the terms physiological and pathological leucocytosis, respectively, and state whether a leucocytosis is present in the following diseases: Typhoid fever, malaria fever, appendicitis, acute miliary tuberculosis.

4. Describe the change one would expect to find in the appendix and surrounding structures in a case of gangrenous appendicitis. Give reasons for the formation of an abscess or the onset of general peritonitis in such a case.

5. Give in detail the pathology of a severe case of tertian malarial fever and describe in detail the parasite involved. What insect acts as an intermediary?

6. Give in detail the pathology of the blood in a case of pernicious anemia and one of chlorosis, respectively.

SURGERY.

1. Give the signs, symptoms and treatment of acute synovitis; of chronic synovitis.

2. Give the details of the operative treatment of gunshot wounds of the stomach and intestines.

3. Give the symptoms of enlargement of the prostate, with a description of its surgical treatment, palliative and radical.

4. Describe the more important effects of nasopharyngeal growths and nasal affections upon the ear.

5. Describe pterygium and its surgical treatment.

6. Give the indications for nerve suture and describe the operation.

THERAPEUTICS.

1. Ergota: Its therapy.

2. How would you determine the proper dosage for a child?

3. Scoparius: Its active principle, dose and physiological action.

4. Define the terms *ad libitum, compositus,*

fiat, chartula, macero, misce, pro re nata, quantum sufficiat and *ter in die.*

5. Cocaine: Its derivation; symptoms and treatment of an overdose.

6. Write a prescription for an adult for one dozen pills containing iron, arsenic and strychnine, using Latin terms and giving directions for taking.

OBSTETRICS.

1. Describe cephalic version by the internal and external methods.

2. Give the management of a face presentation.

3. Write short articles on two of the important toxemias of pregnancy.

4. What are the dangers to be avoided in performing a dilatation of the cervix and a curettement of the uterus?

5. Give etiology, classification and treatment of perineal tears.

6. Give indications for a suspension of the uterus and the various steps of the operation.

CHEMISTRY.

1. Define oxidation, combustion, crystalloid and colloid, and give an illustration of each.

2. Name three chemical substances in frequent use as general anesthetics. Give the chemical composition (formula) and general properties of each, and state what they are chemically.

3. Give the chemical composition (formula) of peroxide of hydrogen and permanganate of potash. Give the general properties of each, and state to what element they owe their antiseptic and disinfecting qualities.

4. What, chemically, is paris green? Give in detail a reliable test for its detection in a supposed case of poisoning from it.

5. Describe in detail the various steps in an ordinary examination of the urine.

6. Give in detail a reliable test for the detection of free hydrochloric and lactic acids, respectively, in specimens of gastric contents.

PHYSIOLOGY.

1. Give functions of spinal cord.

2. Describe the normal flow of blood through arteries, capillaries and veins, and factors which cause the flow in each. (b) What is the total quantity of blood as compared with weight of the body? (c) About what time is required for a complete circulation of the blood through the body?

3. What are tonic and clonic muscular contractions? Give examples.

4. Where is bile formed? How does it reach the digestive tract? What are its functions?

5. Describe the functions of the thyroids and parathyroids, including a consideration of the effects of their removal.

6. Describe the condition of food upon entering and upon leaving the stomach and the digestion which takes place there.

ANATOMY.

1. Describe the acetabulum.

2. Describe and give anatomic relation of the appendix vermiformis.

3. Give attachments, action and nerve supply of the following muscles: Digastric, gastrocnemius, rectus oculi externus, triceps extensor cubiti.

4. Describe the valves of the heart.

5. Locate and describe the spleen.

6. Name the opening into the pharynx.

MATERIA MEDICA.

1. Name three drugs which may be used to produce diaphoresis.

2. Arsenic: Its preparations and the dose of each.

3. Name two galactagogues, two cholagogues and two sialagogues.

4. Codeine, atropine, eserine: Give the source and dose of each.

5. Name the physiological antagonists of pilocarpine, morphine and phytolacca.

6. Santonin, creasote, elaterium, sulphonal, podophyllum, picrotoxin: Give the dose of each.

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, December 8, 9, 10 and 11, 1908.

No.	College of Graduation.	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Materia Medica	Therapeutics	Physiology	Total	Average
1	Maryland Medical, '07	..	..	90	..	..	93	..	..	..	...	..
2	University of Maryland, '08	87	90	76	64	75	75	80	80	75	702	78
2½	University of Pennsylvania, '08	..	..	..	..	..	..	..	..	..	...	..
3	Jefferson Medical, '07	90	90	98	91	93	84	99	96	92	833	93
4	Maryland Medical, '07	..	..	82	..	..	82	..	..	..	...	..
5	Georgetown University, '08	75	75	83	78	78	44	90	80	75	678	75
6	University of Maryland, '08	75	85	66	77	49	45	75	65	65	602	67
7	Baltimore Medical, '08	80	..	30	..	48	48	75	80	70	...	..
8	Maryland Medical, '08	..	75	..	60	80	59	..	..	68	...	..
9	Maryland Medical, '08	..	..	71	62	64	75	..	..	94	...	..
10	Baltimore Medical, '06	..	..	54	..	..	87	..	..	60	...	..
11	University of Maryland, '08	..	..	45	..	75	67	62	65	..	...	..
12	Georgetown University, '08	87	90	88	94	87	85	88	80	75	774	86
13	Maryland Medical	90	..	..	..	..	79	94	..	96	...	..
14	Georgetown University, '08	87	100	98	88	82	78	84	79	88	784	87
15	Baltimore Medical, '07	..	75	85	..	..	..	..	..	..	...	..
16	Baltimore Medical	93	..	..	..	..	95	89	..	75	...	....
17	University South, '08	76	85	63	90	75	63	75	75	81	683	76
18	University of Maryland	97	..	..	..	..	90	92	..	94	...	..
19	Maryland Medical	75	..	..	..	..	64	87	..	95	...	..
20	College of Physicians and Surgeons, Balto., '08	96	95	99	97	91	91	90	90	100	849	94
21	College of Physicians and Surgeons, Balto., '08	75	80	75	..	75	84	90	..	..	...	..
22	University of Maryland, '08	84	..	75	..	..	83	..	..	..	...	..
23	Baltimore Medical, '08	78	..	92	83	78	81	..	..	..	...	..
24	College of Physicians and Surgeons, Balto., '08	..	..	..	..	..	..	..	..	..	...	..
25	University of Maryland, '07	43	..	84	..	..	57	..	..	..	...	..
26	College of Physicians and Surgeons, Balto	85	..	..	..	..	81	96	..	96	...	..
27	Baltimore Medical, '08	59	75	82	90	80	87	84	80	90	727	81
28	College of Physicians and Surgeons, Balto., '06	84	65	96	93	77	82	92	94	90	773	86
29	Howard Medical, '08	83	75	54	67	68	48	80	84	75	634	70
30	Baltimore Medical, '08	78	90	75	82	80	83	96	98	75	757	84
31	College of Physicians and Surgeons, Balto	85	..	..	..	..	92	90	..	96	...	..
32	Maryland Medical	83	..	..	..	..	46	89	..	75	...	..
33	Baltimore Medical, '06	75	..	46	..	..	58	..	..	..	...	..
34	Maryland Medical, '08	..	..	..	..	..	..	..	..	..	...	..
35	Maryland Medical, '06	58	..	63	..	..	52	..	..	..	...	..
36	University of Maryland	75	..	..	..	..	83	60	..	68	...	..
37	Jefferson Medical, '07	..	..	84	..	..	84	..	..	..	...	..
38	Jefferson Medical, '08	75	75	75	99	75	60	75	75	75	675	75
39	University of Maryland	90	..	..	..	..	80	84	..	75	...	..
40	Baltimore Medical, '05	63	..	66	..	75	52	..	..	..	...	..
41	College of Physicians and Surgeons, Balto., '04	..	..	59	..	61	47	66	..	..	...	..
42	L. I. College Hospital, '05	77	..	68	..	81	..	..	..	..	...	..
43	University of Maryland, '08	86	90	91	91	77	85	89	78	75	762	85
44	University South, '08	70	75	50	77	75	49	46	82	69	593	66
45	University of Maryland, '04	..	..	62	..	..	52	..	..	..	...	..
46	Baltimore University, '07	55	75	53	..	58	58	..	..	..	...	..
47	College of Physicians and Surgeons, Balto., '08	..	..	..	..	..	..	..	..	..	...	..
48	Johns Hopkins, '08	79	95	89	96	77	96	88	62	87	769	85
49	College of Physicians and Surgeons, Balto., '07	79	..	75	..	..	75	90	..	.	...	..
50	Baltimore Medical, '05	..	..	75	..	..	..	..	..	.	...	..
51	University of Maryland, '08	..	..	75	..	79	..	88	..	.	...	..
52	University of Maryland, '08	..	..	..	..	77	84	86	75	..	...	..
53	University of Maryland, '04	32	..	20	..	33	37	..	60	66	...	..
54	University of Maryland, '07	75	..	62	..	75	60	..	..	75	...	..

In the above summary an average of 75 is required of those participating in the examination for the first time in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland law, students who at the end of their second year have successfully passed their college examination in Anatomy, Chemistry, Materia Medica and Physiology, are entitled to examination by the Board of Medical Examiners in these branches. Ratings made by these students in the examination, which is known as the "second-year examination," are carried forward and made a part of the final examination, when an average of 75 must be attained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

Medical Items.

Drs. Brice W. Goldsborough and Howard A. Kelly have just returned from a hunting trip in New Mexico.

Dr. George W. Todd has opened a new tuberculosis sanitarium at Salisbury, Md. It will accommodate 10 patients.

Contracts have been awarded for additions to both St. Luke's Hospital and the Baltimore Eye, Ear and Throat Hospital.

Dr. J. Percy Wade, Superintendent of Spring Grove Hospital, will spend three months in the Orient.

At the recent convention of the American Association for the Advancement of Science Drs. Henry Barton Jacobs, Henry M. Hurd and C. Hampson Jones were elected to fellowship.

The Christmas edition of the *Maryland Hospital News*, which is edited and published by the patients of the Maryland Hospital for the Insane, is especially creditable.

Andrew S. Bonebrake, M.D., of Baltimore, Md., was painfully injured by being gored by a cow on his farm, near Pen-Mar. He will probably be confined to his home for seevral weeks.

A large public meeting was held in Cumberland on the evenings of January 13, 14 and 15. Public Health and State Care of the Insane were discussed by Mr. H. Wirt Steele, Drs. C. Hampson Jones, Louis P. Hamman and Arthur P. Herring.

The Lunacy Commission has issued a handbook, which, in addition to much information concerning the various public and private institutions of the State for the care of the insane, includes in its contents a copy of the Lunacy Laws of Maryland.

The seventeenth annual report of the Sheppard and Enoch Pratt Hospital is just issued. It contains, as usual, statistics of the year's work, and also includes the report of the School for Nurses at this institution. Dr. Brush in this report, in speaking of the campaign for State care, gives to it his warm endorsement.

At the Annual Meeting of the State Board of Health, held Wednesday, January 16, 1909, the following officers were elected for the ensuing year: President, William H. Welch, M.D.; executive committee, James Bosley, M.D., Howard Bratton, M.D., and Mr. Douglas H. Thomas; medical assistant, C. W. H. Rohrer, M.D.; bacteriologist, William Royal Stokes, M.D.; assistant bacteriologist, Harry W. Stone, M.D.

DEATHS.

Louis S. Ewell, M.D., Medico-Chirurgical College of Philadelphia, '81, Vienna, Md., died of pneumonia January 8.

William Wallace Ward, M.D., University of Maryland. Harrisonville, Md., January 7, 1909, of pneumonia.

Joseph Harris Stonestreet, M.D., Physicians and Surgeons', '85. Barnesville, Md., January 13, 1909, of pneumonia.

John Shotwell Townsend, M.D., December 15, 1909, at Baltimore, Md.

MARRIAGES.

Frederick M. Barney, M.D., U. S. A., to Miss Isabele D. Melville of New York, December 16, 1908, at Fort McHenry.

Arthur Dunning Mansfield, M.D., University of Maryland, '90, of Baltimore, to Miss Elizabeth Ball of Chestertown, Md., December 30, 1908.

NEW MEDICAL LIBRARY BUILDING.

The building committee would be pleased to have the medical men throughout the city and State drop in and inspect the new library building on Cathedral street, now nearing completion. The well-lighted reading-room, the height of ceilings, the arrangement of the rooms in general and other attractive features will favorably impress all who visit the structure and inspire a personal pride in those who have been instrumental in any way in furthering this most important undertaking. It is hoped that those who have not financially aided in the work, as well as those who have already contributed, will seek to further aid the committee in its plan to hand the building over on the day of dedication unencumbered by a burdensome debt.

The small building committee has felt it important to have some supervision over the decoration and furnishing of rooms in the new building in order that a harmonious whole might be obtained. The committee has for this purpose appointed Drs. Hugh H. Young, Henry Barton Jacobs and Ridgely B. Warfield, whom it would like to have consulted by those who contemplate adding such gifts.

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Phthisis!

Mercury Succinimide by deep muscular injections was endorsed as an anti-tubercular agent by experts at the recent International Tuberculosis Congress. Surgeon Wright, U. S. N., presented some convincing data on its bactericidal value in phthisis in a recent issue of the *J. A. M. A.*

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Communications.

Cumberland, Md.

Editor of the Maryland Medical Journal:

The meetings held in Cumberland under the auspices of the Maryland Association for the Prevention of Tuberculosis mark the beginning of this work in Allegany county. Wednesday evening, January 13, the opening session was held in the Baltimore & Ohio Railroad Y. M. C. A. Robert H. Gordon, the county chairman, presided and made an excellent address in opening the meeting. He was followed by Mr. H. Wirt Steele, secretary of the State Association, who in a clear, forcible manner explained to the audience how much had been done in the work of educating the people regarding the nature, prevention and spread of tuberculosis. Mr. A. C. Willison, superintendent of the public schools of the county, spoke briefly, promising his co-operation in the endeavor to educate the children and to take such measures as were deemed necessary to prevent its spread. Dr. E. T. Duke, chairman of the tuberculosis committee of the Allegany County Medical Society, stated that the physicians of the county stood ready to do all in their power to aid in this important work. The county society has appointed a committee to co-operate with the State Association for the Prevention of Tuberculosis.

The audience was attentive and interesting. Thursday evening the session was held in Sts. Peter and Paul's Hall on the West Side. While the weather was very inclement, a fair audience greeted Dr. C. Hampson Jones, who delivered a masterly address on tuberculosis, which was intensely interesting both to the physicians and laymen. He was followed by Messrs. Gordon, Willison, Rev. Father Peter and Dr. Duke. The closing session of the series was held on Friday evening in Union Street School Auditorium. Mr. Gordon presided in his usual graceful manner, introducing as the first speaker Dr. Haman, physician-in-charge of the Phipps Tuberculosis Dispensary of the Johns Hopkins Hospital. Dr. Haman delighted a large audience with a splended address on the subject, which had by this time received much attention from the public and press. Dr. A. P. Herring followed with an illustrated talk on the "Insane Institutions of the State." The various county institutions were, with a few exceptions, shown to be in a terrible condition. He strongly advocated State care of the insane. A full discussion followed, participated in by both laymen and physicians. The consensus of opinion was favorable to State control of the insane, but a strong protest was entered against abandoning Sylvan Retreat as the county insane asylum. This institution is well managed, cost a large sum to erect, and it is thought can be used to good advantage in the future care of the insane when they are placed under State control.

E. T. Duke.

Announcements.

PHYSICIAN (MALE), PHILIPPINE SERVICE.

February 17-18, 1909.

The United States Civil Service Commission announces an examination on February 17-18, 1909, at the places mentioned in the official list to secure eligibles from which to make certification to fill seven vacancies in the position of medical inspector, $2000 per annum each, in the Philippine service, and vacancies requiring similar qualifications, as they may occur in that service, at salaries ranging from $1200 to $1800 per annum.

Certain allowances for travel are made to district health inspectors, and in some of the hospital positions other allowances are made, depending upon the nature of the work.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects.	*Weights.*
1. Letter-writing (the subject-matter to be upon a topic of medical or surgical interest)	5
2. Anatomy and physiology (regional and minute anatomy, general physiology, the physiologic functions and relations of organs)	10
3. Surgery and surgical pathology (general and special surgery, surgical diagnosis, pathology, treatment and technique)	20
4. Chemistry, materia medica and therapeutics (organic and inorganic chemistry, the preparations, dosage and application of drugs to the treatment of disease)	10
5. Bacteriology and hygiene (the technique of bacteriological laboratory methods and the practical application of the principles of bacteriology and hygiene to prophylaxis and treatment)	15

(Continued on Page b)

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(*Continued from Page a*)

Subjects.	*Weights.*
6. General pathology and theory and practice of medicine (the etiology, pathology, symptoms and treatment of diseases, especially those of the tropics)	20
7. Obstetrics and gynecology (the general practice of midwifery, and the etiology, symptoms and general medical and surgical treatment of diseases of women)	5
8. Experience, training and fitness (rated on the statements submitted by the applicant in his application paper)	15
Total	100

Time allowed, two days of seven hours each. The first four subjects will be given on the first day and the remaining subjects on the second day.

Applicants must indicate in their applications that they are graduates of reputable medical colleges. Training and experience which would adapt the applicants to take supervision of quarantine work in the provinces is desirable, also a knowledge of Spanish.

Applications which are not received in time for this examination will be placed on file for the examination to be held on March 10-11, 1909.

Age limit, 18 to 40 years on the date of the examination.

The medical certificate must be filled in by some medical officer in the service of the United States. Applicants should appear before medical officers of the Army, Navy, Indian or Public Health and Marine Hospital Service. If such an officer cannot be conveniently visited, a pension examining surgeon may execute the certificate. Special arrangements have been made with pension examining boards throughout the country to give such examination for a fee of $2, to be paid by the applicant. This certificate must not be executed by the family physician of the applicant. The medical officer should indicate his rank or official designation on such certificate.

Each applicant for the Philippine Service will be required to submit to the examiner on the day he is examined a photograph of himself, taken within three years, which will be filed with his examination papers as a means of identification in case he receives appointment. An unmounted photograph is preferred. The date, place and name of examination, the examination number, the competitor's name and the year in which the photograph was taken should be indicated on the photograph.

This examination is open to all citizens of the United States who comply with the requirements.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the Board of Examiners at any place mentioned in the official list for application, Forms 2 and 375.

Editorial Comment.

VALUE OF OPHTHALMOSCOPIC EXAMINATION IN THE DIAGNOSIS OF ARTERIOSCLEROSIS.

When fully developed, arteriosclerosis can be recognized by the general clinician with no great difficulty. A positive determination of the earlier stages is extremely difficult, but most essential if we are to accomplish anything in the way of controlling the disease. For purposes of diagnosis the general clinician interests himself with a study of the pulse by palpation, with the character of the first sound of the heart at the apex and the second sound at the aortic area, with the increased tidal wave on the sphygmogram and the elevation of arterial tension as recorded by the sphygmanometer.

If, says Stengel, these four symptoms were found in arteriosclerosis alone, the problem of diagnosis would be greatly simplified, but this is not the case. There are numerous and varied conditions of the system, organic and nervous in origin, that elevate pressure nearly constantly, and in which arteriosclerosis has no part except, perhaps, as a consequence. Any one of these conditions may occasion the four signs of arteriosclerosis. On the other hand, a considerable and often very serious degree of arteriosclerosis may exist with a normal blood pressure.

In the eye, vascular changes are displayed with a clearness and minuteness nowhere else obtainable in the living body. Ophthalmoscopic examination is, therefore, the easiest and best clinical means we possess for detecting arteriosclerosis.

Briefly stated, these ophthalmoscopic signs include uneven caliber and undue tortuosity of the retinal vessels of such a character that a beaded appearance is produced. There is distinct loss of transparency of the arterial walls, which are often bordered by white stripes. The veins

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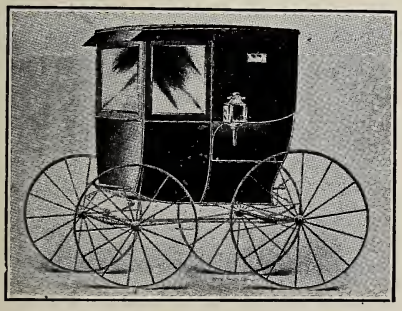

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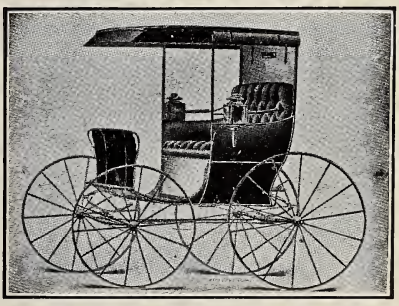

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may also present the same appearance. There may be hemorrhages and edema of the retina. The most important sign, however, is indentation of the veins by the hardened arteries in the same manner as a solid rod would indent a rubber tube when lying across it. These ophthalmoscopic signs are produced by no other condition except arteriosclerosis. The eyeground examination is, therefore, of paramount importance in the recognition of this disease, especially in its earliest stages.

This method of examination is infinitely more delicate than the palpation of the radial or temporal arteries through the skin. If the findings are positive they are diagnostic, and in this respect have an importance which, as we have seen, far surpass that furnished by the four classical, clinical symptoms of arteriosclerosis. Yet, when this has been admitted, there are certain limitations to the value of examination of the eyegrounds which must be mentioned. Pathological research has shown that angiosclerotic processes are almost always exceedingly irregular in their distribution. It is easy to prove that some patients have extensive intraocular arteriosclerosis without the least palpable rigidity of their radial or temporal arteries, and the reverse is also true. These facts detract in some degree from the value of the ophthalmoscopic evidence of general arterial disease, yet it remains the best indicator of the state of the vessels generally which we possess. Positive evidence is of more value than negative. When retinal vascular disease is present the prognosis is always grave; when absent, it is not necessarily good.

WHAT IS THE TROUBLE WITH THE MEDICAL PROFESSION?

American Medicine.

It is humiliating, after honest, legitimate, scientific medicine has accomplished what it has, to find that years of the hardest kind of study and research have no higher standing in the eyes of the majority of people than the newest and most visionary cult. A few truths, a few magazines and newspaper articles, some lectures, a little theological endorsement, a few neurasthenic patients, a dash of feminine adoration, and lo, a new school arises and essays to take the place of scientific medicine! Carping critics seize the occasion to point out the shortcomings of the regular medical profession, to tell us what we do not know, and what we, as practitioners of medicine should, but have not done. Medicine-baiting has ever been a favorite pastime with many individuals, and dissatisfaction with some particular doctor has been enough to bring down upon the whole science of medicine maledictions and condemnation. It would seem that the people expect their physicians to be miracle workers, a good deal more than human, and only a little less than angels. When they find out, as all must sooner or later, that the most learned physician is just an ordinary mortal who has made the human body his special field of study, and that he knows no more, and can do no more than any other man could do with like study, opportunities and application, the awakening causes a revulsion of sentiment that too often takes the form of the most violent antagonism.

X-RAY TREATMENT OF LEPROSY.

American Medicine.

The X-ray treatment of leprosy has now been under investigation long enough to have raised hopes that we have discovered a remedy for at least some cases. Cures are reported from the Philippine Islands, and they give rise to the hope that the popular dread of the disease may at last be allayed. There has long been a respectable body of opinion that the disease is not contagious in any sense of the word, and, indeed, there is an amazing lack of proof that it is ever transmitted from man to man. The facts of apparent transmission are now explainable on the hypothesis of common infection from the same source—some lower animal, perhaps fish. These two new developments of curability and non-transmission should convince the public that the present barbarous manner in which they isolate the leper is entirely uncalled for. Indeed, there is some evidence that the Biblical leper may have had something entirely different. At any rate we are not justified in continuing any of the old brutal ways of the ancient Hebrews.

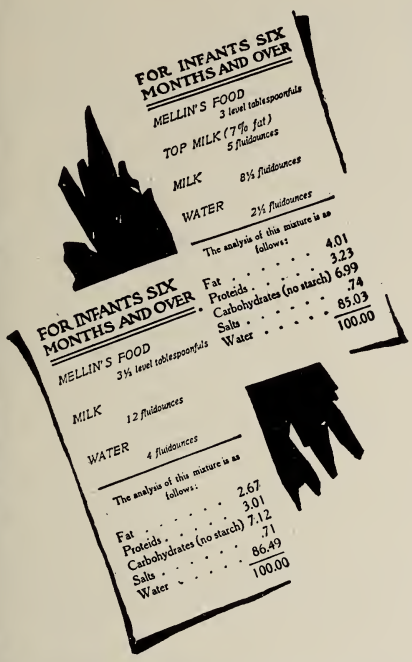
Excerpts.

MUNICIPAL CONTAGIOUS DISEASE HOSPITALS—THEIR MEDICAL AND FINANCIAL IMPORTANCE TO THE COMMUNITY.

In considering questions of this kind we must have before us some example for illustration. I have taken as such example the contagious-disease hospitals of the Department of Health of the city of New York that are under my supervision.

Their points of excellence can well be copied by other municipalities.

Let us consider the medical importance of



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contagious-disease hospitals from the following standpoints: First, the treatment afforded in them; second, the protecting influence of their rigid quarantine; third, their proper construction.

In the hospital there is constantly on call the best of medical aid, and the food and medicines are given with regularity. Sudden changes in the patient, and they come suddenly in contagious disease, are met at the onset, and thus serious sequelae are frequently avoided.

Let us consider here three of the most common of contagious diseases: First, diphtheria. What advantages does the hospital afford that can not be had in the home? There are croup cases that must be intubated; in the hospital there are experienced intubators capable not only of quickly and safely intubating, but what is much more to the point, know *when* intubation is indicated and when it is not. If you need further evidence of the good effect of hospital treatment in diphtheria, compare the death-rate of Buffalo with that of Boston, where over 60 per cent. of the cases are taken care of in the South Department of the Boston City Hospital. In Buffalo the death-rate being over 13 per cent., while in Boston it was less than 3 per cent. How can this wide difference be explained except by accrediting a great deal of it to the treatment afforded by the hospital?

The care of scarlet fever in a hospital gives the patient a better chance to avoid the painful and dangerous sequelae that frequently accompany it. I refer to the joint, gland and heart lesions. The same thing may be said of measles. By constant watching by trained observers the dangers of sequelae are lessened.

As important as the treatment of the contagious-disease case and its ultimate recovery is the means used to prevent the disease spreading through the community. The regulations of the Department of Health of the city of New York are such that contagious diseases cannot be discharged from the hospitals until it is believed that the contagious period in the case has passed. For example, scarlet fever is held for a minimum period of 35 days, and longer if the case is still desquamating; measles for 21 days, and diphtheria until two negative cultures are returned. Thus it will be seen that convalescent cases are not allowed to come in contact with well persons, and the spread of disease is prevented.

I have already said that hospital environment is the proper kind for contagious diseases, but this depends entirely upon the construction of the hospital and the manner in which it is administered.

Visiting being a necessary evil of contagious-disease hospitals, especially where the cases are dangerously ill, provision must be made for the proper control of visitors; first, to insure that they will not bring new infection into the hospital, and second, that they do not carry out of the hospital infectious organisms to other persons. The construction of the wards of the Pasteur Institute is particularly adapted for this purpose. The patients are kept in small glass rooms, and the visitors are admitted to a corridor where they can see the patients but cannot come in contact with them. Our present method in New York of allowing gowned and capped visitors to pass into the wards and come in actual contact with the patients is unscientific, and without a single good feature to warrant it.

Last year a virulent attack was carried on against the Kingston Avenue Hospital for contagious diseases for a long time, in an effort to have it removed from its present site. The argument used was that it was a menace to the health of the immediately surrounding community. Upon investigation it was found that there had not been a case of contagious disease within several blocks of the hospital for a long time, and that no member of the families of the 200 employes had had contagious disease as a result of their working there, although at that time there were 500 cases of contagious disease in the hospital. What better argument can be given for the good to the community of a contagious-disease hospital?

I wish to say a word about the social relation of the contagious-disease hospital to the community. The old appellation of pesthouse, coupled with ignorance on the part of the people, has caused a tremendous amount of expense and distress. Pesthouses bring to mind loathsome things, dangerous things, things to be avoided, things to be afraid of. Now contagious diseases are not loathsome and are not more dangerous, when properly administered, than other communicable diseases.

It is not necessary to hunt for some secluded spot for a hospital; on the contrary, it should be so centrally located that the ambulance calls would be the shortest possible.—*R. J. Wilson, M.D., Buffalo Medical Journal, November*, 1908.

THE PSYCHIC TREATMENT OF FUNCTIONAL NEUROSES.

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psychic method of treating functional neuroses stands out conspicuously. The various cults had absolutely no share in the originating of psychotherapy. They merely utilized well-known principles while the majority of physicians were asleep. But, as in many other fields of activity, the economic side of the question is beginning to awaken the lethargic mass of practitioners, who are now rubbing their eyes and asking, What is this psychic treatment? The answer is, It is nothing new; it is as old as mankind and has been practiced ever since there were any practitioners. We have always practiced it and did not know it. While formerly we made extensive use of suggestions, we now aim to follow more rational methods. The older methods had a tendency to subject the patient's will to an extraneous force, such as suggestion, hypnotism or prayer. The new psychotherapy utilizes modern educational principles in order to strengthen the weak spots in the patient's mental make-up, and aims to cast out the parasites of the mind and to permit healthy thought associations to be re-established. It teaches principally self-reliance, and scoffs at slavish subjection to another's will. The following is a concrete example of psychotherapeutic success: Mrs. C. D. aged 50, sustained an insignificant trauma to her right knee. Several days later she developed a typical case of traumatic hysteria. Her right knee was painful and stiff, the entire right leg then became paralyzed. Various diagnoses had been made and all kinds of treatments were administered. When she came under my observation she had been a confirmed invalid for a period of eight months, spending her time between the bed and an invalid chair. My diagnosis was traumatic hysteria, and the treatment purely psychical. In a few weeks from the beginning of treatment she was able to walk and attend to her household duties. She has now been well for over four and a half years. For details of treatment the reader is referred to the original. In conclusion, I wish to emphasize that if the practitioner will devote a little more time to his patient's mentality the ground will slip from under the feet of the "Christian Scientist," "New Thought," "Religious Psychologist" and the entire tribe of charlatan "healers." Their nefarious business of converting the race into a stupendous mass of cringing puppets at the shrine of Oriental superstition will then be at an end and we shall again have a race of reasoning people.—Julius Grinker, M.D., in *Quarterly Bulletin of Northwestern University Medical School,* December, 1908.

EXTENSION TREATMENT OF FRACTURE OF THE LEG (MODIFICATION OF HENNEQUIN'S APPARATUS).

Operative treatment not applicable as yet as a routine procedure in difficult simple fracture. Permanent reduction best obtained by continuous extension. Elimination by this method of bad features of rigid immobilization mainly; impairment of function and delay of sound callus formation by preventing a reasonable play of the bone surfaces against each other. Hennequin's apparatus best applicable in oblique fractures of the leg, also in comminuted with interposition of fragments and in compound fractures. The principal features of Hennequin's frame are traction upon the leg in a horizontal position, with flexion of the femur. To this are added the advantages of a double inclined plane, without change of the horizontal position of the leg, thus transposing the gravity of the leg into traction. The apparatus is expensive and may be replaced by a simpler one omitting this last feature. A frame is made of gaspipe 9 inches high, 8-8½ inches wide and 20 inches long. This consists of two lateral and two cross pieces. It is open at either end above. To this is joined a "U" piece for the femur 13¼ inches long, somewhat wider than the frame, and movable upon it, to allow adjustment at any angle. Both are covered with duck cloth. Extension is made by means of a plaster shoe. Application requires great care to avoid decubitus. Sufficient padding must be applied. Shoe is made by circular application of plaster-of-paris bandage. Shoe is then covered with oiled paper or rubber cloth, and a posterior molded splint applied from the calf to the sole of the foot. The apparatus should be perfectly level when placed in the bed. By cutting a window in the splint and using duck strips for a hammock, wounds on the posterior surface of the leg may be dressed in situ. Extension is made by means of a pulley. The cord is attached to the loop of bandage incorporated in the shoe. About four pounds traction will suffice in fresh fractures to begin with; this may be increased by a pound every other day up to seven pounds. In older fractures 9 to 10 pounds are required. Traction is tolerated better by day than by night. Any surplus above six pounds should be removed at night and added again by day.—E. C. Riebel, M.D., Chicago, in *Quarterly Bulletin of Northwestern University Medical School,* December, 1908.

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Ancient coin, bearing the head of Hippocrates, reproduced from *La Grèce Médicale*, August, 1908, through the courtesy of the *Journal of the American Medical Association*.

"HIPPOCRATES."

(460-370 B. C.)

FIRST OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter I.

In so far as the history of medicine is concerned, it can be assumed to have properly begun with Hippocrates. Previous to this period it existed principally as an unformed, pseudo-art, uncertain and unreliable and shrouded almost completely in mythological mysticism. The Periclean era of the Grecian period developed it into somewhat of a legitimate science, and, under the fostering care of Hippocrates, the art was started on its eventful career down the ages.

The earliest ideas of Greek medicine were clustered about the deified Aesculapius, who reigned serenely on Mount Olympus, and it was from this paternal ancestor that Hippocrates II is supposed to have obtained his remarkable healing power.

To make the environment an appropriate one the Father of Medicine was born about 460 B. C., on the Island of Cos, the site of the principal Asclepium, a temple erected in honor of Aesculapius.

His mother, Phaenarete, who was a midwife, is said to have been the eighteenth in descent from Hercules.

The age of Hippocrates was also the age of Athenian supremacy, and, under the inspiration of Pericles, the state was just entering upon its most brilliant period. In this century the Greeks produced their greatest philosophers, artists, poets and statesmen. It is

doubtful if any age of the world's history was more prolific in this particular.

So the time seemed propitious, and the youthful Hippocrates, after having undergone the usual Grecian training of the young, was sent to Selimbria, in Thrace, near the present site of Constantinople, where he became the pupil of Herodicus, who was famous as being the inaugurator of a system of calisthenic exercises.

From Selimbria he moved to Sicily, where he received instruction from the celebrated orator and philosopher, Gorgias, a scholar, whose wide range of accomplishments is said to have included a knowledge of "the natural sciences, mathematics, grammar, mechanics, music, philosophy and various other useful arts;" surely an instructor well fitted to inculcate a broad and liberal groundwork.

The greater part of the healing art at this period was principally in the hands of the priesthood. The temples of Aesculapius, which were originally really temples of worship erected in that deity's honor, were scattered over numerous places, and the priest-physicians, or Aesculepidae, as descendants and members of the guild, assumed entire control. The most celebrated of these were at Rhodes, Epidaurus, Cnidus and Cos.

It was only natural that the youth should take up as his life-work the profession of his ancestors, and, upon the completion of what might be termed his preparatory course, he returned to the study of medicine at the schools of Cnidus and Cos. Under the supervision of his father, who was a physician of note, he heartily entered into his work, and it was not long before he began that series of innovations which makes his name so justly honored. It had been the custom for many years, as a grateful token of a recovery of those who sought health at the temples of Aesculapius, to place tablets near the temples, upon which were recited the stories of the "marvelous cures." Thus we find that "in these days the oracle spake to a certain blind man of the name of Gajus; he was to go to the altar and to pray, then make a circuit from right to left, lay his five fingers upon the altar, raise his hand and place it upon his eyes. Thus in the presence of the people, loudly rejoicing, he regained his health. This manifestation of omnipotence happened under the Emperor Antoninus."

And again: "The oracle spake to the blind soldier, Valerius Aper; he was to come and mix the blood of a white cock with honey, make an eye salve and smear his eyes with it for three days. He recovered his sight and came and returned thanks to the god before all the people."

Once again: "Julian appeared to be in a hopeless state, after an attack of spitting of blood. The god, by means of the oracle, ordered him to come and take a pine cone from the altar and to eat this, mixed with honey, for three days. He was cured and came and thanked the god before all the people."

And finally: "The son of Lucius, who lay hopeless with a stitch

in his side, was ordered by the god in a night vision to come and take ashes from the altar, to mix them with wine and lay them on the side. He was rescued, and thanked the god before all the people, and the people wished him joy."

These, apparently, were characteristic medical records at the time of Hippocrates' entrance upon the study of medicine, and it is easily surmised that little could be gained by their study. However, as we have already concluded, this great physician began his work along original lines. As his father headed the Sanatorium of Cos, with its dozen or more beds, he was in a position to make a close study of the course and character of the diseases under treatment, and it is to this date that we trace the earliest attempts at the accurate recording of cases.

When we consider that the period of which we write was something like 2400 years ago, it must be acknowledged that the power possessed by Hippocrates to faithfully transcribe important characteristics was really most remarkable. The *facies Hippocratica,* or the *dying face,* has long been classical. "A sharp nose, hollow eyes, collapsed temples; the ears cold, contracted and their lobes turned out; the skin about the forehead being rough, distended and parched; the color of the whole face being green, black, livid or lead-colored." That such a terse, unadorned statement of fact has been able to reach down to our own day, to remain as it originated, unchallenged, testifies to the remarkable descriptive powers of this great historical character.

Nor were his powers of observation less keen than those of description. A story is told of him that well illustrates this. His reputation had already outreached the boundaries of his own country, when a young king of Macedonia, Perdekkas by name, was attacked by what had previously been diagnosed as consumption. The great Greek physician was sent for, and, after several examinations of the distinguished patient, observed that there was an acceleration of the fever every time a certain young lady, Phila by name, approached the young king. He concluded that the so-called consumption was neither more nor less than an attack of love-sickness, and that Phila herself was the only remedy. It is presumed that "all ended happily," since we are told that the king soon recovered.

It was not strange that Hippocrates should preach that the foundation of all knowledge should be accurate observation. He believed that it was safer and wiser to make deductions from what could be observed in a given number of cases than to be carried away by too much theory or speculation.

So he delved deep into the mystical and poorly kept records and compared the result with his own experiences, discarding everything that was opposed to them. As a consequence, he abolished the entire theory of the divine interference in disease and was the first to separate medicine from that mixture of religion and mysticism that had at that time so distinguished the real art. Disease, he taught, was the natural result of certain physical causes, and did

not depend on the wrath or anger of gods or goddesses. He was a firm believer in cause and effect, maintaining that no disease was without its natural cause. As for the sacredness of disease, he would have none of it. This is well illustrated by what he has to say in regard to epilepsy, the "sacred" disease: "It is thus with regard to the disease called sacred; it appears to me to be in no wise more divine or more sacred than other diseases, but has a natural cause from which it originates, like other afflictions. Men regard its nature and cause as divine from ignorance, and wonder because it is not at all like other diseases. But if it is to be reckoned divine because it is wonderful, instead of one there are many diseases which would be sacred." He gives a sharp dig at the irregulars when he says: "And they who first referred this disease to the gods appeared to me to be just such persons as the conjurors, mountebanks and charlatans now are, who give themselves out for being excessively religious and as knowing more than other people."

How many are there still, at this late date, referring diseases to the gods!

Such outspoken criticism of the prevailing dogmas gained for him the enmity of the priesthood, for it ultimately led to the cutting down of many of their perquisites.

It is interesting to ponder over the part this great man played in so radically establishing the science of medicine on an honest footing. It must be remembered that of all beliefs that which has a religious foundation is the most difficult to change or eradicate. As we have already observed, from the first dawn of history medicine had been disguised and enshrouded in religious mysticism, and, therefore, it was no easy task to cull out the little pearl in the oyster, as it were, and polish it up so that it could show its true brilliancy. This could only have happened in an age such as the Periclean, which marked so enlightened a period in the world's history—an age in which liberalism and democracy of action, as well as thought, predominated.

So Hippocrates, although himself of the priest family, established a school of medical thought directly opposed to the precepts of his ancestors and colleagues. That it had been entirely separated from mysticism cannot be stated truthfully, but, as far as the teaching of the Father of Medicine is concerned, it can be justly declared that in his mind superstition played no part.

Hippocrates was a great traveler. He not only traversed the entire domain of Greece, but most of the countries within reach of the Greeks. He even visited as far northward as the country occupied by the wandering Scythians, and was in great demand in all lands. It has been related of him that he once refused the invitation of Darius, King of Persia, to visit his capital. It is also stated that during the plague of Athens he recommended the building of fires of an aromatic pine in an endeavor to check its spread, and in recognition of this service the Athenians presented him with a golden crown. Later the inhabitants of Argos are said to have

voted him a statue of gold, and the Athenians initiated him into the most sacred mysteries of their religion, an honor most rare in those days.

He has also been credited with having, through his influence, averted a threatened invasion of Cos by the Athenians.

That he was a just and upright man is readily evinced from a perusal of his writings.

No declaration in history can excel the Hippocratic oath, which is credited to him, for its concentrated ethics, and it has been justly handed down the ages as an ideal model of professional rectitude and the commandments of medicine. In a clear, concise and simple manner he lays down the entire gamut of laws that should regulate the conduct of the physician:

"I swear that, according to my ability, I will keep this oath and this stipulation. I will follow that system of regimen which, according to my ability and judgment, I consider for the benefit of my patients, and abstain from whatever is deleterious and mischievous. I will give no deadly medicine to anyone, if asked, or suggest any such counsel. With purity and holiness I will pass my life and practice my art. Into whatever houses I enter I will abstain from every voluntary act of mischief and corruption; and, further, from the seduction of females or males, of freemen or slaves. Whatever, in connection with my professional practice or not in connection with it, I see or hear in the life of men which ought not to be spoken of abroad I will not divulge, as reckoning that all such should be kept secret. While I continue to keep this oath inviolate, may it be granted to me to enjoy life and the practice of the art, respected of all men in all times; and, should I trespass and violate this oath, may the reverse be my lot."

To judge from the great number of works that bear his name, Hippocrates must be declared to have been a most prolific writer. But it has been fairly well settled that many of these are spurious and were written many years after his demise. Moir, in his excellent "Outlines of the Ancient History of Medicine," declares that of the 72 ascribed to him 65 are dubious in their origin. Those recognized as undoubtedly genuine, he states, are "The Epidemics," books first and third; "The Predictions," books first and second; "The Prognostics," "The Aphorisms," "On Diet and Acute Diseases,' "On Wounds of the Head" and "On Air, Waters and Soils."

In "The Epidemics" the author displays a frankness not always observed in writings of the present day. He gives a description of 42 cases, of which 25 ended fatally, and as a consequence the author was rewarded for his honesty by being dubbed a practitioner of the "medicine of death." He mentions treatment only in one case. It was acute fever, attended with dry cough and delirium. He applied warm applications without improvement. "I opened a vein on the eighth day and much blood of a proper character flowed. The pain abated, but the dry cough continued." At the end of 34 days the patient "sweated all over." He attributes the recovery possibly to "the evacuation of the sputa."

In "The Prognostics" we find many illustrations of his power of

accurate observation and deduction. Indeed, it can confidently be stated that in this work we have the first attempt by any medical writer at anything like setting down the results of the close observations of signs and symptoms. He introduced the system of inductive reasoning and emphasized the "good signs" and "bad signs."

His "Aphorisms" is composed of 412 sentences, and deals with diseases and their treatment. They have been translated into every civilized language and commented upon by an army almost as big as the commentators of Shakespeare. However, between these two great men there is the difference that time has not altered the application of many of the sayings of the Bard of Avon; but this is not true of all those of the Physician of Cos. Hippocrates had no means of knowing the true cause of many diseases; nor did he always apply the proper treatment. This knowledge was to follow after many centuries of experiment and observation along the lines laid down by him, and to follow a natural, though tedious, development. So it happens that a portion of his "Aphorisms" is entirely devoid of value, and if some of his treatment were applied today the practitioner would, no doubt, soon find himself within the grasp of the law. Nevertheless, many of his maxims are as applicable today as they were in the ancient days of Grecian medicine.

He tells us to "say something agreeable to the patient; flatter his sense and humor his fancies, if they are not dangerous."

Another piece of advice he gives is that "one must never strip bare, nor exhibit to the bystanders, without necessity, those parts of the body which should be covered." As a part of his education, "the physician must know what his predecessors have known, if he does not wish to deceive both himself and others." That some of his confreres sometimes "played to the galleries" is evident from what he infers when he tells us that "any physician can set a broken arm, yet I know certain physicians who create a reputation for dexterity by the unnecessary parade of their manners. * * * A novelty, the advantage of which is not known, is praised more than the ordinary method, whose excellence has been proved; and surprising things are more highly prized than those which are obvious in themselves."

Of his pathological aphorisms, which form the greatest proportion of his work, it can be said that, as they stood the test of more than 2000 years, they remain as a living monument to the remarkable work and its author.

In his work "On the Injuries of the Head" we find the first mention of trephining, and his book on "Airs, Waters and Soils" may be said to be the first work on hygiene ever published. In it he advises the physician to make himself familiar with the exposure and situation of the cities, and the nature of the soil, water and the habits of the people. In another section he describes the character of the winds prevalent in Greece and their relation to disease. He also discusses the various kinds of water, the different seasons

of the year and their effect on man. He draws conclusions as to the effect of climate, and in this connection points out that the character of a people often depends on their geographical location.

The theories ascribed to Hippocrates are "as the sands on the seashore." This is, no doubt, due to the great number of books which he has been charged with writing. However, as has already been stated, many of these works are counterfeits, for which he should not be held responsible.

A perusal of his undoubtedly genuine writings must convince us that much of the true medical science of the world is contained in them; and, if we are inclined to be critical and condemn portions of his teachings as worthless, we must not fail to consider the time in which he taught.

Knowledge is usually the result of the accurate accumulation of experiences, and is led up to by successive steps of advancement. If the Phoenician merchants had not rested their cooking pots on those subcarbonate of soda blocks they would not have discovered the art of making glass, which led to Robert Hookes' invention of the simple microscope, but for which Laveran's discovery of the malarial organism would have been impossible.

Behring probably would never have developed his diphtheritic antitoxin had not Jenner paved the way, and it was due to Edison's development of the electrical science that Roentgen was enabled to perfect his X-ray. After all, the Father of Medicine could only build with the material at hand. That he succeeded in perfecting a structure that has greatly withstood the battering of so many centuries is alone evidence of its greatness.

It is interesting to note some of the doctrines this philosopher taught. He declared that the universe was divided into four elements—earth, water, fire and air—and the human body into four humors—blood, phlegm, black bile and yellow bile. If there was a disproportion of any of these humors, or if there was too much or too little of either, there resulted disease. To bring about health it was necessary to establish their proper proportion. This is known as the Doctrine of Humors.

He also made another division. There were the muscles, tendons, bones, membranes, cartilages, nerves, etc., which he called the "containers," and the blood, phlegm, yellow and black bile, which were the "contained." The qualities of the humors he gave as moisture, dryness, heat and cold, and, philosopher like, he compared them to the four ages of man, to the four seasons of the year and to the climates. Infancy was the spring of life and the temperate of climates. Youth was summer, which he likened to the country of hot and dry climate. Middle age was the autumn of life, and old age its winter.

As regards the functions of the humors, the master held that blood was the source of vital heat and served as the nutrifier of the body; that the phlegm served as the lúbricator of the membranes and articulations; that the yellow bile, by aiding in the concoction of food, kept the body healthy, and that the black bile was the

source of the other humors. Fevers he divided into the commencement, the increase, the acme and the decline, and he dscribes a process of "crisis" and another of "coction."

Another doctrine attributed to Hippocrates was the "nature theory." "Nature," he declared, "plays an important part in the human body." It acts as a sort of ever-present guardian angel. You cannot get away from it if you should try. As long as it is stronger than the pathogenic condition it will overcome it. He has been charged with carrying this theory to extremes, but the experience of centuries has gone far toward proving the wisdom of this principle. Of course, the term "nature" may have a different meaning to us to that which it had in the days of Hippocrates. There is no doubt that the principle is a recognized one, even if the term itself were different. We might take, as an illustration, Metschinkoff's theory of phagocytosis, and which Virchow has so aptly termed the "battle of the cells." Let the phagocyte represent "nature." He is always on the outlook for the enemy. He does not await an attack, but advances as soon as the foe heaves into sight. There is a clash, a struggle, and the stronger proves the victor. Could it have been possible that he had some such idea in mind, perhaps in a vague way, when he put forth his "vis medicatrix naturae?"

So he tells us, in his maxims, to "follow nature." "The physician is a servant, not a teacher, of nature." And again: "Natures are the physicians of diseases." It cannot be concluded from his writings that he depended altogether on this factor which he terms "nature." On the contrary, he had great faith in the value of medicinal means, for we find that he mentions something like 265 drugs. He often made use of the lancet, and even the cautery. His treatment of fevers proves that we have not advanced much over his method in this particular. He encouraged the use of drinks, but prohibited food, for he says that "the sick upon whom the fever seizes with the greatest severity from the very outset must at once subject themselves to a rigid diet." "Complete abstinence often acts very well, if the strength of the patient can in any way maintain it." And he further adds, lest this be carried too far, that "in the application of these rules we must be always mindful of the strength of the patient and of the course of each particular disease, as well as of the constitution and ordinary mode of life with respect to both food and drink." "Timidity indicates incapacity; rashness is evidence of unskillfulness." In chronic diseases he recommended exercise, bathing and a strengthening diet.

It is interesting to learn that human nature was then not much different from what it is today, which is proven by what Hippocrates tells of his own troubles. He says: "The physician visits a patient suffering from fever or a wound and prescribes for him. On the next day, if the patient feels worse, the blame is laid upon the physician; if, on the other hand, he feels better, nature is extolled and the physician reaps no praise."

Hippocrates lived a long and useful life. His was a career full of steady effort, and, although he was often wont to chide himself

with the little progress he had made in the medical science, it was really only the modesty of genius that was at fault. He was the last one to put too much trust in his own saying that "experience is fallacious; judgment is difficult." No one relied more on experience than he himself. It is a well-known fact that where he based his conclusions on experience alone he usually displayed good judgment, and his "Reason, Experiment and Tradition" doctrine is no doubt one of its products.

He is well worth pondering over, this Father of the Physicians' Art. Snatching medicine from the blind mysticism of the priesthood at one fell swoop, this prince of doctors established the basis upon which all future ages of medical men were to work. At once we find the physician with a high conception of his noble duties, working studiously and seriously, with only the loftiest ideas of the moral requirements of his craft and high sense of personal responsibility. We find a man who is making the utmost of the materials at hand, observing, accumulating experience and making deductions from same, always with the one idea of the advancement of his art in view.

Honors were heaped upon him in many climes, but he was not without his detractors in his own land. In fact, it is asserted that his rivals even went so far as to accuse him of having extracted all there was of value in the library of the Temple of Cnidus, after which he is charged with having set fire to it. How like the ingratitude displayed toward great characters in all ages! How often are we inclined to punish greatness when it deserves commendation!

Socrates was rewarded by a drink of hemlock because he ventured to teach a philosophy opposed to the religious beliefs of the Athenians; and Galileo, when he announced his theory of the rotation of the earth, underwent persecution and imprisonment. Anaxagoras was thrown into a dungeon because he tried to teach the idea of a supreme being. Aristotle, after long persecution, to escape it finally swallowed poison. Columbus was manacled for his discovery of America, and Harvey was subjected to the severest ridicule after announcing his theory of the circulation of the blood.

In his reply to the epistle of Democritus, Hippocrates tells how he was repaid more often for his professional exertion and labors with blame for misconduct than praise for success.

"Moreover, that he was then an old man and was yet far from having carried his art to that point of perfection of which it was susceptible." He puts forth the truism that "the practitioner of medicine who commits the fewest faults is the most to be admired."

But it has been the experience of mankind from the beginning that greatness ultimately overcomes the jealousies and hatred of unprogressive rivals.

So Plato regarded him as a master, and Aristotle followed him as a model. Seneca considered him the greatest of physicians, and Pliny named him the "Father of Physic." Cabanis, in his "Revolutions de Science Medicale," sums it up powerfully when he declares that "Continuing to be studied by physicians, to be consulted by

philosophers and read by all men of taste, he is and always will be universally respected as one of the most distinguished ornaments of antiquity, and his works will always be regarded as one of the most valuable monuments of science."

He died at Larissa, in Thessaly, at the age of ninety, and was buried between the latter place and Gyrtona. Temples were erected in his honor and have long since disappeared. But he himself builded the greatest monument by the story of his life's work. That is indestructible and imperishable and will live as long as wisdom.

DISEASES OF THE RECTUM.

By J. Dawson Reeder, M.D.,
Baltimore.

In looking over the various advances in medicine during the past few years, one is surprised to note the numerous contributions and interest which has developed relative to diseases and symptoms which have their origin in the rectum and pelvic colon. The general practitioner has constantly before him cases of constipation, obstipation and fecal-impaction, as well as numerous cases of pruritus ani, hemorrhoids and chronic inflammatory conditions of rectum and colon.

The importance of local examination of these parts cannot be overestimated, as disease in this locality progress very rapidly, and seemingly trivial conditions soon develop into ones of great magnitude.

In the large majority of rectal diseases an early diagnosis and proper treatment will result in a rapid cure. Of course, this does not apply to malignant cases, which are as a rule well developed before recognized or seen by the surgeon. "The embarrassment of the patient and the very disagreeable task for the doctor will never be an excuse for the omission of such examination."—*Tuttle.*

In studying the condition of pruritus ani we are surprised to find the numerous causes, such as constitutional diseases and indiscretions in diet. I have often had patients tell me that life was a burden with this seeming trivial, though distressing, condition and it was of no consequence where they were or in company with the opposite sex, "the desire to scratch was so intense that they would almost go wild."

This, perhaps, has been the experience of every physician to be consulted for itching rectum. Pruritus ani is a symptom and not a disease. Aside from accompanying many of the diseases of the rectum it is quite frequently of reflex origin, associated with gout, rheumatism and melancholia. Certain articles of food and drink are productive in different individuals predisposed to pruritus. As this is but a symptom of some pathological condition, the treatment will resolve itself into the management of the condition and to relieve the itching while the pathological condition is being cured.

"HOW THE PUBLIC CAN HELP THE MEDICAL PROFESSION TO FIGHT DISEASE."

By G. Milton Linthicum, A.B., A.M., M.D.,

Professor of Physiology and Proctology, Baltimore Medical College; Vice-President Medical and Chirurgical Faculty.

ONE OF A SERIES OF PUBLIC LECTURES UNDER THE AUSPICES OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

THE fundamental principle of health depends upon a just regard by the individual for the rights of others, and all laws are based upon this principle for the preservation of one's own life, which entitles him to as full an enjoyment of health as his means and mode of life will permit. The necessity for civil law in these matters is evidence that this just regard for others is not generally observed. There would be no need for ordinances and penalties were there no infractions. The regulation of pure food is a charge that the corrupt and unscrupulous manufacturers will sell, in supposedly pure products, harmful and deleterious preservatives, not that they are not well aware of the harm which would result to their fellow-men, but simply because they are unscrupulous and dishonest. Here you must not only educate them relative to what is healthful, pure and good for the human system, but your aim should also be to uplift them morally either by means which will awaken within them higher ideals, or, when it is impossible to appeal to them in this manner, then comes the necessity of enactment and enforcement of laws and regulations. And in enforcement of the law the penalty should not be a mere fine of so many dollars, for in the mind of the dishonest tradesman the fine is merely counted as a part of the cost of their nefarious business and is simply deducted from the amount of profit which their dishonesty enables them to obtain. The only way to remedy such dishonesty in persons, usually of prominence and wealth, is by depriving them of their liberty, and I do not believe that a law without a personal penalty will be of great avail in these matters of commerce. And why should it not be so, for the penalty of murder is death and the penalty of attempts at homicide is imprisonment, and the gradual destruction of your health is depriving you of so many years of a useful and happy life; therefore the penalty should certainly be in proportion to the offense. Do you realize that it is impossible with the new laws recently enacted by Congress for an outside manufacturer to ship goods not properly branded and labeled into your State, so that it is impossible for such manufacturers to sell you adulterated sugars, teas, spices, etc.? Nor can they sell you food with preservatives. Do you further realize that it is not possible for any manufacturer in your State to ship goods which are adulterated or misbranded into some other State? But perhaps you do know that your own manufacturer and your own groceryman can sell you anything, be it

either adulterated, misbranded or misrepresented, so that while you are protected against the importation of spurious goods and your neighbor is protected from impure goods from any manufacturer in your State who may be dishonest, yet a dishonest and unscrupulous manufacturer doing business here in Maryland may sell any sort or kind, good, bad or indifferent goods to the people of this Commonwealth. I am glad to say that Governor Crothers recently appointed a commitee for the study of this problem of pure foods and drugs. This committee will draft such a law as will protect the people in our own State and it will be submitted at the next Legislature for passage. But I warn you that unless you create the sentiment and stir up the people to the necessity of such a law, and that you see that such members who are to be elected to the next Legislature shall promise to favor a pure-food law, there will be sufficient amount of influence brought to bear to defeat it. It was only recently that a patent-medicine law was submitted to the Legislature, but it was defeated by the patent-medicine men, who imported into the State their paid attorneys. And so will the same fate meet a pure-food law unless you are willing to use your efforts to see that it is passed. Do not mistake me. A pure-food law will doubtless be passed, but the way to defeat the purpose of a law of such a character is to so amend it so that various articles will be permitted as preservatives or as coloring matter, so that the law in itself will be of no particular value. A recent controversy was held between Dr. Wylie of Washington and a special committee appointed by President Roosevelt to pass upon the nature of benzoate of soda, whether it is harmful or innocent when used in the preservation of various fruits, packed especially in California. The special committee reported that benzoate of soda was harmless in the quantities used in the preservation of fruits. Dr. Wylie, after a series of long and elaborate experiments, maintains that it is deleterious to health and that its use should be prohibited. It occurs to me that, even though the special committee reported this a harmless product, it is unnecessary, as proved by the mere fact that one of the largest manufacturers of fruits, jams, preserves, catsups and other like products can keep his goods sweet without any fermentation by a simple process of cooking, and guarantees them absolutely free of any preservative. Regardless of the character or nature of benzoate of soda, should not every manufacturer be compelled to do the same? Personally, though the committee may be right in their deductions and Dr. Wylie may be wrong in his experiments, I prefer to take my food as nearly pure as it is possible to obtain. It does not in any way affect you from the standpoint of health to consume tomatoes which have been colored with a vegetable compound at the time of canning, but it does enable the packer to can green and unripe fruit and sell it in this unwholesome state, with all the appearance of its having been ripe and sweet at the time of its preservation. Here it is not the question of harm result-

ing from the vegetable coloring, but it is the harm resulting from the eating of unwholesome, unripe fruit.

There should also be a greater safety provided by public-utility and other corporations. The loss of life from railroad accidents, street-car accidents, accidents within factories and mines is stupendous. Last year between 35,000 and 40,000 fatal, with 2,000,000 non-fatal accidents, occurred, and the only way to compel these people to be more careful of life would be the enactment and enforcement of proper regulations. In England and Germany less than one-third of accidents occur. Do you not recall how very recently it was the common fate of all travelers on steam railroads to be consumed after a wreck by the coal stove situated in one end of the car? It required a very active campaign to compel those in control of railroads to eliminate this. It was a usual sight to see men with one arm occupying some minor position around railroad stations, due entirely to the fact of the old-fashioned coupler, which for many years has been replaced by the patent coupler. Another source of danger is the excessive work required of telegraphic operators and railroad engineers. The human system becomes so fatigued that the mental impressions are slow to create the necessary orders of the system, and accidents constantly result either from misplaced switches or sleeping engineers.

Neurasthenia, the disease of the day, the disease of tired nerves and worry, is a result of the modern mode of life. Late hours and strenuous days, the modern society woman with her numerous engagements, the absence of home life, the man forcing his nervous energies to the point of exhaustion are due to the absence of the simple and quiet home life. Excessive spending, excessive drinking and excessive speculation lead to the sanatorium and a wrecked system. It is with you, by precept and example, to encourage more of the home life, more pure and wholesome food, pure sunshine, full night's rest and moderate, well-directed exercise. Walking, one of the most healthful exercises, has fallen in such disrepute that, with the exception of a few sporadic attempts at clubbing, a man seen walking in the country is taken for a "book agent or a tramp." In addition to the excesses of ourselves, the constant noises of the street are racking to the nervous system and have a tendency to destroy its equipoise. How very much more is the car gong rung than is necessary! While a means of warning and of safety, yet the mere habit of the motorman of constantly dingling it as he goes along the street could very readily be minimized. The milkman, when he drives into a block to deliver a gill of cream, alarms the neighborhood with a gong big enough for a fire engine. Why should he not get down from his wagon and ring the door bell? The man with more money than brains who has equipped his automobile with a siren or a steam whistle sufficiently loud for an ocean liner in a fog should be eliminated. The manager of a street railroad who permits a flat-wheeled car to thump its way through the streets should be locked up in a boiler

shop. There is no necessity or occasion for the loose rails over which the cars pass, making night hideous with its unnecessary noises. The dirty and illy kept and badly paved streets are deleterious to health. The fine particles of dust, which may or may not contain the disease germs, set up an irritation within the lungs that makes a suitable field for the engrafting of the germs at some other time or place. The smoke of locomotives, factories, hotels and apartment-houses could be absolutely prevented by suitable mechanical arrangements. The careless, wasteful chauffeur who races his way through town, belching forth black and sickening odors and smoke of unconsumed lubricating oil, should be punished. All of these factors are conductive to some form of derangement of the human system, and all could and should be eliminated. There should be a proper regulation of life in a factory. Attention should be paid to the ventilation, to the illumination and to the arrangement of the work benches. There should be an inspection of such factories to see that they are not only constructed safely against loss of life from fire or accident, but also against loss of life from bad ventilation and improper management. The sweeping in a factory should be done after the working hours, so that the dust may have time to settle before the workmen come again into the rooms. The arrangement of the benches should be such that the workmen do not face each other, making it possible to spray sputa, either by coughing or by talking, into the other's face. And again, the employe should be so instructed and so regulated that he co-operate with the employer in maintaining a just relation of these matters. He also must be taught to know that he is his brother's keeper.

The question of industrial hygiene has been almost absolutely neglected in this country, while abroad for nearly a century Great Britain and Germany have investigated diseases associated with the arts and trades. They not only look after the long-established factories, but they follow up the new, so that today in Germany the factories engaged in the manufacture of aniline dyes are under careful investigation in order to see what effect it may have upon the health of those engaged therein. France has done more to investigate the effect of lead poisoning upon the human system than any other country. There are but few of us who realize that lead enters into the manufacture of 111 articles. With this wide use of such material and its insidious inroads upon the health of the individual, how very important it is that a careful observation should be maintained over such factories!

Let us compare the question of elimination of rabies in this country with that of Great Britain. Only a short time ago was there a great furore in this city, and each year do we have to deal with this same dread affliction upon our people. In Great Britain there exist no rabies. It is absolutely free of even a single case; so much so that when Professor Woodhead desired to obtain an animal dying of this disease, he was unable, after searching all through

the kingdom, to find one, and had to send outside of his own country to get one. I think we could have supplied him. This is how they did it. No dog—big, little, great or small, with or without a pedigree—can enter Great Britain until it has been under surveillance for at least six weeks. No politics, no influence, no appeal to the man higher up, can admit the lady's pet poodle or the master's big Dane until after this period of probation. At the time the law was enacted every dog was compelled to be muzzled for at least six months and then carefully watched afterwards. This, of course, becomes almost impossible in our country, because we have what is known as State rights, and no general enactment promulgated by Congress can regulate the internal working of a State, only so far as it affects contiguous States. The regulation of keeping pigs in the yard and cows in the coal shed was vigorously opposed by an ignorant and selfish people. Only recently an ordinance for the muzzling of dogs was equally strongly opposed, and, following upon its passage, has been allowed to supinely rest. The public conscience was only stirred a little because some poor child was bitten by a rabid dog, but this sentiment has again fallen into a state of lethargy, and the stray animal roams around with almost as much freedom as of yore, while the Society for the Prevention of Cruelty to Animals drags its gossipy and ridiculous charges through the court, in which august body the presiding judge would doubtless like to make some use of the muzzles. What remedy would I suggest for this? How could you aid the physician in preventing this horrible disease? I would suggest a law which would absolutely prohibit the keeping of dogs in a city. Some of you who have dogs (and most of us love dogs) would feel this a particular hardship in the curtailment of your liberties, but I must refer you to the good of the whole. I simply state that the dog should be entirely eliminated in a city, as it is no more a place for dogs than it is for goats, cows and pigs, and not only is it unjust to man, but equally cruel to the pent-up dogs in a city. Why should you allow stables to be constructed here, there and everywhere, filling the air with noxious odors, breeding flies and harboring rats? There should be a proper regulation of these matters. A stable should be properly located and should be properly regulated as to its structure and convenience.

There is one subject to which I do not feel it amiss to call your attention, because there are rumors and mutterings and sounds indicating an attack in this country, as it has been abroad, and that is the benefit of vivisection. The fanatic and self-styled friend of the dumb animal is endeavoring to encourage hostile legislation, and unless the public are instructed in the true significance and value of this work I feel that a misguided sympathy may encourage such legislation. You will soon be called upon to be the judge and jury of the facts, and upon your verdict, the verdict of

an enlightened or benighted public mind, will the wheels of medical progress, which have only too recently, after many years of enforced rest, be blocked. You must either advance or retrograde, and all the future of medicine depends upon experimentation on the lower animals. It is far more fit that the fittest should survive, and God's most noble creation is man; all else must to his will yield, even unto him their life.

Vivisection, while its etymological derivation means to cut or to open while alive, has now a broader and far more important significance. It now includes all experiments upon the living animal for scientific purposes, whether they consist of cutting operations, compression or the submitting of such animals to varying conditions of temperature, or the administration or injection of drugs, or even the administration of various preservatives in food. These experiments are conducted by men of broad humanities, of a high sense of morals, of natures keen to suffering and whose sensibilities are not obtunded by even constant association with such experiments. Aside from this moral view, it is well known by men conducting these experiments that the results to be accurate must approach as nearly a normal condition as is possible and that pain must be eliminated by every possible means. I feel we are not claiming too much when I say that our entire, accurate knowledge of physiology and of the action of drugs, the germs of disease and the combating of disease by antitoxic sera is practically the result of vivisection in its broad sense. Probably the first experiment was made by Galen, 150 A. D., when he opened and tied off a section of an artery and then opened it to show that it contained blood, and not air, as had been held prior to this experiment. William Harvey, in 1628, confirmed later by others through living dissection, proved the circulation of the blood, and by like experiments the heart was shown to be the propelling organ. The possibility of transfusing or conveying blood from one animal's vessels to another of the same species was first done on dogs by Richard Lower. Would anyone say that this knowledge, used to rescue from the jaws of death a gasping, dying mother, the hope of life of her newborn babe, is not worth more than all the dogs sacrificed in a thousand years? Indeed, I feel that could the animal be endowed with human intelligence he would consider it a glorious privilege to have died in such a cause.

The phenomena of respiration, the gaseous changes, the various effects of excessive pressure and vacuum were chiefly obtained by experiments upon animals. This knowledge today is so general that it is used constantly in the rescuing of the drowned and asphyxiated by artificial means. Our whole knowledge of ventilation and its practical application in the maintenance of life and health depend upon these physiological truths. The experiments upon animals have taught us the potency, the value and danger of

such drugs as chloroform, chloral and morphia. Sir Lyon Playfair, in an address given before the House of Commons in defense of vivisection, relates how Sir James Y. Simpson, the discoverer of the effects of chloroform, when given the first vial of this drug, was so eager to find the anesthetic, even to recklessness, that he wished to try its effect upon himself, but it was only surrendered upon condition that it first be used upon two rabbits. This was done, and the rabbits were quickly anesthetized and as quickly returned to consciousness, but died afterwards from the effect of the impure product. Was not this a justifiable experiment upon animals, and was not the sacrifice of two rabbits worth the saving of the greatest physician of his time?

Experiments made upon dogs for various injuries to the abdominal organs have taught us the possibilities of abdominal surgery. The location of definite functions in certain parts of the brain has been almost entirely accomplished by such experiments. Can you realize the difference between the enormous mortality of diphtheria prior to antitoxin and now? Can you not recall how its presence was nearly always fatal? Do you not only too recently recall the epidemics of cholera, of smallpox and of plague—how thousands were swept from the earth? Is not the knowledge of the true cause of tuberculosis and its effective relief dependent upon animal experimentation? Lazear and Carroll were given up in an autovivisection experiment when they demonstrated the true cause and the mode of transmission of yellow fever. What greater sacrifice could man make? We have yet before us a wide field; many places are yet devoid of true knowledge. Typhoid fever, pneumonia and scarlet fever are still gathering their harvests with their grim reaper, and an antitoxin for each should be the true aim of each disciple of medicine.

The true nature of cancer—the disease whose very name conveys horror and distress, suggests pain, suffering and death—we do not know. The medical discoverer of this century would be the discoverer of cause and relief of this dread malady. The only hope at present is upon the surgeon's knife, and it is well that you should know that any suggestion of its presence demands immediate investigation for any possibility of relief from this source.

Is it not the irony of fate that at present a celebrated surgeon, who has toiled long in the field of this particular disease, is its victim? With these problems we must continue our experiments and have your guidance of action. I have dealt somewhat lengthily on this phase of my remarks, because I feel that you should know the benefits which have thus resulted to humanity and because upon it depends future relief in the troubles which I have mentioned.

(*To be continued.*)

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D.

THE CONSERVATIVE TREATMENT OF INFLAMMATORY DISEASES OF THE TESTICLE AND EPIDIDYMIS.

Conservatism in surgery means the cure of a lesion with the least possible mutilation of the patient. As our knowledge of the progress of disease has increased we have learned that in most conditions there exists a time when the pathological process is arrested by certain protective barriers present in the healthy tissues and organs. Post-mortem examinations have rarely shown this stage of disease, but the information has been gained from observation of the conditions revealed during operations and by careful study of the tissues removed by the surgeon.

These natural barriers make conservative surgery possible. Therefore it becomes necessary for the internalist, as well as the surgeon, to recognize disease before the stage of natural arrest has passed. This adds a great deal to their duties, and may even extend beyond all methods of clinical study in cases where the true nature of the lesion can be recognized only at an exploratory incision. Practically always, however, a sufficiently accurate diagnosis can be made to justify this exploration.

Inflammations of the testicle offer a particularly attractive field for conservative surgery. Most of these lesions come by way of the epididymis and have a definite period of arrest in this tube before invading the testicle proper. By means of conservative operations performed early, it is often possible to spare the seminal function, and even in later stages to preserve the internal secretion. The earlier these patients come to the surgeon the less frequently will he be obliged to perform castration; also the number of atrophied testicles will diminish. The internal secretion of the testicle has sufficient bearing on the general metabolism to make its conservation important. And, furthermore, the psychical after-effects of castration, especially of double castration, make the preservation of the testicle a subject for serious consideration in all diseases of the gland.

Operation for inflammation of the testicle is most often performed for tuberculosis, less frequently for syphilis, of the epididymis, or of the gland itself. As yet incision for the cure of gonorrheal epididymitis has not become common, although the operation is based on sound principles and has been recommended by eminent authorities (Chetwood, *Journal of Cutaneous and Venereal Diseases*, Vol. XVIII; Belfield, *Proceedings of Associa-*

tion of Genito-urinary Surgeons, 1906, and *Progressive Medicine,* December, 1908).

The great danger in gonorrheal epididymitis is occlusion of the lumen of this tube and consequent azoöspermia, when the disease is bilateral. Simple occlusion does not produce atrophy of the testicle; this results only when an extension of the process has caused an orchitis. As a rule, the vas and seminal vesicle are involved before the epididymis, and in chronic epididymitis they are always the sources of reinfection. Belfield has shown that opening the vas through the scrotum provides drainage for the infected vesicle, and permits direct medication of both vesicle and vas. Most of the pain in acute epididymitis is due to the tension of a sacculated hydrocele surrounding the head. Incision of the tunica vaginalis will at once relieve the pain, and I believe that at the same time an incision made into the lumen of the tube will hasten recovery and materially decrease the probability of occlusion. Hagner (*Annals of Surgery,* December, 1908) gives a very excellent illustrated report of his method of puncture and incision. K. Stern (*Zeitschrift f. Chir.,* 1908, 35, p. 110) recommends the use of Bier's constriction hyperemia for acute epididymitis. The rubber band is applied around the cord in the upper part of the scrotum, much as the adhesive plaster is put on in strapping the testicle. Stern finds that the pain is rapidly relieved and the course of the disease modified by the adoption of this method.

Surgical operation for syphilis of the testicle is rare except in late and neglected cases. Once in a while a gummatous testicle is removed because it is diagnosed sarcoma. The appearance of the two lesions is so similar that their distinction is extremely difficult even with the microscope. The improvements in the technique of examination for the spirocheta pallida, especially the recently devised dark-field condenser, lead us to hope that soon a certain diagnosis will be possible by examination of smears at the operation. Conservatism in syphilis is entirely dependent on diagnosis. Excision of a gumma is rarely necessary, and even a fungus ulcer involving scrotum and testicle may be treated by a conservative operation in conjunction with vigorous constitutional treatment.

Tuberculosis of the testicle and epididymis is the lesion of these organs most often brought to the surgeon for operation. In the older cases the condition practically always required castration because of destructive secondary infection. Improvements in diagnosis, however, with a better knowledge of the extent of removal required in tuberculous lesions generally, and the great value of hygienic methods in treating surgical tuberculosis, have brought out the value of conservative methods in handling this group of cases.

When operating in long-standing cases, however, castration is the only method—we have no choice. The vas is always infected, and provision must be made to take care of it. Probably the best way is to bring the stump of the cord out through the incision carried up into the groin and leave it outside the skin. The rest of the

wound may be closed by suture, and this stump will give drainage for the vas and the vesicle.

The diagnosis of genital tuberculosis in early cases is materially aided by tuberculin. The dose should be small and the local reaction carefully watched. Most often it is so distinct that the larger dose of tuberculin, with its associated inconvenient general reaction, may be avoided. In these early cases it is possible to resect the epididymis, later doing a restorative operation, or to remove the epididymis with or without an area of testicle. In this latter procedure we are able to leave at least some testicle and gain for the patient whatever good there is in its internal secretion.

Corner (*British Medical Journal,* October, 1908, Vol. II, p. 1001) recommends the indirect treatment of inflammatory disease of the epididymis and testicle by resection of the spermatic vessels and the vas deferens, leaving the deferential vessels intact. He reports a case of early tuberculosis of the epididymis cured in this way.

The Restorative Operation has been recommended almost entirely for the relief of azoöspermia following gonorrheal epididymitis, but is available in all cases where there are some patent epididymeal tubules on the testicular side of the obstruction. In this operation Martin (White and Martin's "Genito-urinary Surgery") makes an anastomosis between the vas and the patent portion of the epididymis. The small structures involved make the operation tedious, and delicate instruments are required. To restore the continuity of the vas after its separation the simple operation first published by Mayo (*Annals of Surgery,* January, 1895) is best. A suture of catgut or silkworm gut is threaded on two needles, one of which is passed into the lumen in either direction, brought out through the wall of the vas and the ends tied. The suture acts as a splint and keeps the ends of the tube in apposition until healing is complete.

Genito-Urinary Diseases and Syphilis. By Edgar G. Ballenger, M.D., Lecturer on Genito-Urinary Diseases, Syphilis and Urinalysis, Atlanta School of Medicine. With 86 illustrations. Price $3. Atlanta: E. W. Allen & Co. 1908.

In this little book of 300 pages Dr. Ballenger has brought together for the benefit of the medical student a very excellent epitome of the most approved, up-to-date views concerning diseases and methods for their cure in the lines indicated. The chief value of the volume is its extremely practical character and the avoidance of unessential discussions. Where the physician particularly needs detailed directions they are given from the author's own extensive clinical experience with great minuteness. It is really a very fine little handbook, and we take great pleasure in recommending it to our readers. The illustrations are extremely apt and helpful, and the publisher's work is very good throughout. We hope that by the reception given to the book of Dr. Ballenger Messrs. Allen & Co. may be encouraged to bring forth other treatises showing the very excellent work now done by Southern physicians and surgeons.

William H. Welch, M.D., President. Marshall Langton Price, MD., Secretary.
Howard Bratton, M.D. Louis A. Griffith, M.D. James Bosley, M.D.
Douglas H. Thomas, Jr. Hon. Isaac Lobe Straus.

Under the Direction of the Secretary of the State Board of Health

OYSTERS AND TYPHOID FEVER.

THE OYSTER BEDS OF MARYLAND AND VIRGINIA.

The S. S. Commodore Maury, the flagship of the Virginia Oyster Navy, has just returned from a two-weeks trip, making a sanitary survey of the oyster beds of Virginia. The survey was made by the Virginia State Department of Health upon petition of the Virginia oystermen. On board the Commodore Maury were Dr. Allen G. Freeman, Assistant Commissioner of Health, and Mr. Ferguson, bacteriologist of the department. Through the kind invitation of Dr. Ennion G. Williams, Commissioner of Health of Virginia, and Dr. Freeman, Dr. Marshall Langton Price, secretary, and Dr. Wm. R. Stokes, bacteriologist of the Maryland State Board of Health, accompanied the party.

A laboratory was set up in one of the cabins. The thermostat was a tin chest heated by an ordinary coal-oil lamp. Considering the nature of the apparatus, a remarkably uniform temperature was maintained.

The route of the Commodore Maury was from Richmond down the James River to Norfolk, thence to Gloucester Point and the York River across Mob Jack Bay to Irvington and the Rappahannock River; from the Rappahannock River, across the Wicomico River and up the Potomac to Colonial Beach. From Colonial Beach the boat went down the Potomac to Crisfield and across Pocomoke Sound to the oyster beds of the Eastern Shore of Virginia.

METHOD OF COLLECTING SAMPLES.

The samples were generally collected in one of three ways—in fair weather the oysters were generally tonged from a small gasoline launch aboard the Commodore Maury; in rough weather the bottoms were dredged from aboard the steamer; occasionally oysters were taken from the oyster boat or their dredges.

TECHNIQUE.

When the dredge was drawn aboard, one or two oysters were selected and scrubbed in a bucket of water drawn overboard above

the oyster bed, representing the water in which the oyster was found. The oysters were then allowed to dry, after which its two ends were dipped in boiling water for brief periods. The oysters were then opened with a sterile oyster knife and 10 c. c. of the juice lying in the lower shell inoculated into the fermentation tubes.

RESULTS OF THE SANITARY SURVEY.

The results of the sanitary survey were very much in accord with the findings of previous investigations. Where the evidences of pollution were abundant and large amounts of sewage discharged in proximity to the beds, the juice of the oyster contained the colon bacillus as an evidence of sewage contamination. Very few of the specimens gave rise to fermentation in the glucose bouillon medium, and these specimens almost without exception were taken from places where evidences of sewage contamination were evident upon mere inspection.

FATTENED OYSTERS THE REAL DANGER.

The sanitary survey seems to confirm the view of previous investigators, that oysters in their natural beds are wholesome and free from contamination in the vast majority of cases, and that the pernicious custom of fattening, is the cause of nearly all, if not quite all, the danger in eating raw oysters.

The process of fattening consists in dumping oysters in fresh water. The oysters imbibe fresh water and swell, becoming larger, paler and heavier. The taste for fattened oysters often goes with an epicurean fancy for the flavor of sewage. Open sewers are generally the most convenient sources of fresh water found close to the oyster beds. The oyster does not propagate in fresh water, but only in water that is frankly salt or brackish. For this reason it is generally found only in arms of the sea, and, if found in rivers, only near their mouths. On this account any pollution received higher up will undergo extensive dilution and become practically harmless before reaching the oyster beds. An exception to the purity of the oyster in its natural beds is found where very large quantities of sewage are discharged into the sea near the oyster beds. Thus a few of the samples taken about Norfolk fermented the sugar-broth medium. In the neighborhood of Norfolk, but somewhat outside the sewage area, are found the well-known Lynnhaven oysters.

COMMERCIAL ASPECTS OF OYSTER POLLUTION.

The oyster as a source of typhoid fever has reached a prominence, perhaps, somewhat greater than actual conditions warrant. Doubtless cases of typhoid fever from eating raw oysters are somewhat common, but when compared to the total number of cases from all causes, the oyster is relatively not very important; but, in the words of the trite quotation, "the oystermen confront a condition, and not a theory."

There has undoubtedly been a marked falling off in the export

trade in oysters, especially in exports to the Western States, and this is ascribed to the popular alarm concerning the dangers of eating raw oysters.

THE REMEDY.

The oystermen of Virginia have taken a wise step in shedding light upon the question of oyster pollution, and the work of the Virginia Health Department should be taken up in Maryland and due publicity given to the results. The States of Maryland and Virginia largely control oyster production, and the full publication of the facts regarding the comparative safety of the natural oyster beds will do a great deal to restore the oyster to its place in the popular regard.

The condition is serious, as oystermen this year report an abundant crop, but little demand for oysters, and as a consequence the price has fallen markedly. The best step on the part of the oystermen would be to stop the traffic in fattened oysters, which are the real source of danger. The best move in this direction would be the passage of a national act forbidding interstate shipment of fattened oysters. Doubtless this could now be accomplished by the Bureau of Animal Industry under their power to make rules and regulations. If similar State laws were passsed, we would soon hear little of the oyster as a source of disease.

INTERNATIONAL CLINICS: A Quarterly of Illustrated Clinical Lectures and Especially Prepared Articles by Leading Members of the Medical Profession Throughout the World. Vol. III, Eighteenth Series. Philadelphia: J. B. Lippincott Company. 1908.

The frontispiece is a colored plate showing a very interesting specimen of adenoma of the thyroid gland, illustrative of an article on that subject by Dr. George P. Muller of the University of Pennsylvania. Since the opening of the surgical laboratory in this university, in 1902, 10 adenomatous goiters have been submitted for pathological study; and, in addition to these, the author has studied about 40 specimens in the German Hospital. The pathology, etiology and treatment are carefully discussed, with plates illustrating the various types.

There is also an interesting article by Dr. Paul L. Tissier of Paris on the treatment of whooping-cough by fluoroform. All of his 117 cases recovered, and he says that he is almost inclined to speak of it as a specific treatment. From its value in certain tenacious forms of cough in adults supposed to be connected with tracheo-bronchial glandular enlargement he has been led to believe that some of these cases are really prolonged forms of whooping-cough in grown persons. Any physician well acquainted with whooping-cough is necessarily somewhat slow to add any more to the already numerous "specific" methods of treatment for that obstinate and elusive disease.

Another article that strikes the attention is one on the direct internal splintage of broken bones, by Edred M. Corner, surgeon to St. Thomas' Hospital, London. The whole subject is carefully discussed, and a number of skiagraphs are given illustrative of the relations of the plates and screws to the broken bones at various periods of treatment.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

JAMES BOSLEY, M.D., Commissioner.
C. HAMPSON JONES, M.D., Asst. Commissioner.
THOS. L. RICHARDSON, M.D. Asst. Commissioner, Quarantine.
J. W. M. KIGER, Secretary.

Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director

This Department is Under the Direction of the Commissioner of Health

THE INFLUENCE OF FLIES AND CARRIER CASES IN THE SPREAD OF TYPHOID FEVER.

THE importance of the fly in causing the spread of typhoid fever has been recently emphasized by the writings of Dr. L. O. Howard, the entomologist of the United States Department of Agriculture. He has shown that the fly will breed by laying eggs in surface deposits of manure, either around the stables or in the box closets where human excrement is deposited on the surface of the ground. The adult flies may also feed from such material, and they can easily transport typhoid bacilli from these places to kitchens or dining-rooms and infect the food in two ways. Whipple, in his book on "Typhoid Fever," explains these two methods in detail, and they are as follows:

Fecal matter containing the germ of typhoid fever may adhere to the body and legs of the fly, and in this way the bacillus of typhoid fever is carried from a surface closet or cesspit to the solid or liquid food, where it is deposited in or on such material. In this way a fly may easily introduce thousands of typhoid bacilli into such a material as milk, and these germs, especially if the refrigeration is not perfect, can develop into many other germs and produce a very satisfactory culture of the typhoid bacillus. Bread and other articles of food can also be infected in this way. In one experiment cited by Whipple lime was thrown in a privy vault and a chocolate cake with black frosting was later exposed in a window near this cesspit. The white tracks of the flies from the limed cesspit soon appeared on the surface of the chocolate cake. In Chicago flies which were found in certain privy vaults were examined and found to contain the bacillus of typhoid fever on the surface of their bodies. The second method of infection

of the food may be caused by the deposit of the feces from the fly upon the food, since it has been shown that the typhoid bacillus will remain alive for 23 days in the intestine of the fly. The relation between flies and typhoid fever was also pointed out by Reed, Vaughan and Shakespeare in their "Report on the Origin and Spread of Typhoid Fever in the United States Military Camps During the Spanish War of 1898." They noticed that flies swarmed over the fecal matter in the pits and then fed upon the food in the mess tent. Sometimes when lime had been used in the latrines flies with whitened feet were seen walking over the food. They condemn in this report the use of the pit system, and they recommended that all feces and urine should be deposited in fluid-tight receptacles in which they can later be burned.

It is difficult to state just how much typhoid fever comes from the fly as a carrier, but the danger is obvious from this source, and the route of infection which is now open from our cesspits to our kitchens can be closed in two ways—the privy itself can be carefully screened against the entrance of the fly, and, as an additional safeguard the contents can be disinfected by chlorinated lime or freshly slaked lime. The doors and windows of the kitchen and dining-room should also be screened against flies. Howard has well called this insect the typhoid fly, and it is important to adopt precautions such as have been mentioned in order to prevent the infection of food from the typhoid bacillus, the dysentery bacillus and the organisms of other intestinal diseases.

HUMAN TYPHOID CARRIERS.

Recent observations in Europe have demonstrated that about 3 per cent. of the patients who have recovered from typhoid fever will contain the typhoid bacillus in their feces or urine. Such an individual will distribute typhoid fever in various ways, and several instances have been published in the literature. In New York a cook who went from house to house is said to have been the cause of 28 cases of typhoid fever. Upon investigation typhoid bacilli were found in the feces. In cases of this kind the bacilli are probably transported from the soiled hands and fingers to fluid foods, such as milk, or solid foods, such as bread and vegetables eaten raw. In another case the typhoid carrier was found upon a dairy farm handling the milk before shipment. Many cases of typhoid fever developed along this milk route and the infection of the milk was traced to this person on the farm.

It thus becomes highly important to inquire into the past history of individuals who handle food either as domestics or in large dairies or other places where fluid or raw foods are handled. If there is a previous history of typhoid fever, the feces and urine should be examined for typhoid bacilli, since these bacilli often remain undetected many years after the original attack. The Subdepartment of Health is now prepared to furnish outfits on application by physicians that can be used for making cultures from feces or urine in bile. The tube of bile is then sent in a

special mailing case, and if typhoid bacilli are present they can usually be detected in from two to three days.

The special causes of typhoid fever have been mentioned, but, after all, the prevention of most of the cases can be summed up in the following phrase: "Boil the water, steam the milk and keep out the flies." We shall then escape some of the shame charged to us by Osler in his peroration before the Maryland Public Health Association in Baltimore in November, 1897. He spoke as follows:

"The penalties of cruel neglect have been paid for 1896: the dole of victims for 1897 is nearly complete. The sacrifices will again number above 200. We cannot save the predestined ones of 1898, but what of the succeeding years? From which families shall the victims be selected? Who can say? This we can predict: they will be of the fairest of our sons and of our daughters; they will not be of the very young or of the very old, but the youth in his bloom, the man in the early days of his vigor, the girl just waking into full life, the young woman just joying in the happiness of her home—these will be offered to our Minotaur; these will be made to pass through the fire to the accursed Moloch. This, to our shame, we do with full knowledge and with an easy complacency that only long years of sinning can give."

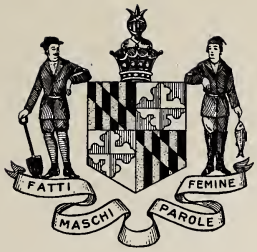
WM. ROYAL STOKES.

HIGH FREQUENCY CURRENTS. By Frederick Finch Strong, M.D., Instructor in Electro-Therapeutics at Tufts College Medical School, Boston. With 183 illustrations in the text. Price $3. New York: Rebman Company. 1908.

We have at last discovered the foundations of the universe. It rests on electricity; all material things are formed by vibrations of the electricity. It is a comfort to have reached, at last, a solid basis for things. The fact that we do not know what electricity is, nor what vibration in it is, does not at all detract from our satisfaction. Ancient philosophers were perfectly content with similar solutions of the problem; one system, if we remember right, rested the world on a tortoise, thinking it quite unnecessary to discuss what the tortoise in turn rested upon.

These electrical vibrations constitute the common bond of all things, the invisible links by which all facts of nature, however diverse, may be co-related and traced to a common origin. A splendid opportunity for the use of words is opened up here to the philosopher.

The book before us, however, is not devoted to philosophy, but to an extremely practical exposition of the methods of electro-physics and the use of high frequency currents in therapeutics. The results obtained in the restoration of disordered function in the body in the destruction of diseased organisms, in the correction of perverted metabolism, are considered in detail. A particular feature of the book is the very profuse illustration of the apparatus used in the various departments of high frequency therapeutics. Though, perhaps, unwilling to concede that the high frequency current will ever be the ultimate panacea for human ills, physicians must follow with great interest its very clever application of late years to disease and the remarkable therapeutic results which are at times obtained from it.



MARYLAND LUNACY COMMISSION.

ARTHUR P. HERRING, M D., Secretary.
HENRY M. HURD, M.D. HUGH H. YOUNG, M.D. JOHN D. BLAKE, M.D.
R. MARKLEY BLACK, M.D. ATTORNEY-GENERAL ISAAC LOBE STRAUS, ex-officio.

This Department is Under the Direction of the Secretary of the Commission

STATISTICS AND CLASSIFICATION OF THE INSANE.

By William Rush Dunton, Jr.,

Sheppard and Enoch Pratt Hospital, Towson, Md.

READ BEFORE THE MARYLAND PSYCHIATRIC SOCIETY, JANUARY 19, 1909.

Everyone will probably agree that while statistics are frequently tiresome, yet often they form the best way of arriving at conclusions, and sometimes are the only way by which some questions can be studied.

It will be admitted by all who have investigated the subject that statistics relative to the insane in Maryland are not in an especially satisfactory condition. It is hardly worth while to point out in what way they are defective, so that comparison with other States or communities cannot be satisfactorily made, nor to seek for all the causes of their inaccuracy, as our time can be better spent in pointing out ways of improving them, but it may not be amiss to point out at least one cause of inaccuracy.

As you all are probably familiar with the cards now used by the Lunacy Commission, you will recall that the card used to note the admission of a case shows diagnosis, in addition to other information. The commission likes to receive this card as soon as possible after the admission of a patient, and I am afraid some of us, in our anxiety to gratify the very proper wish, are apt to be careless in making a diganosis, believing that we can correct any error on the discharge card, which also contains a space for the diagnosis.

Recently, however, I learned that these cards are filed separately, so that on looking up the record of a particular case I found that a patient who had been seen at the Johns Hopkins Dispensary and diagnosed as suffering from paresis, was soon after admitted to the

Sheppard and, according to the Lunacy Commission's card, diagnosed maniaco-depressive insanity. This was not the diagnosis on his case record, as that is paresis. Three months later he was admitted to Springfield with a diagnosis of paresis and was discharged two months later. He was admitted to Bayview after eight months, being diagnosed paresis, and after two weeks was moved to Mount Hope, where his admission diagnosis was delusional mania. It would seem better, therefore, for the commission to revise the earlier diagnosis, or else that it be not made until the discharge card is received.

In the first place, I believe that the Lunacy Commission should be made the clearing-house of all information relative to the insane and should collate the facts with which they are furnished by the institutions or physicians of the State.

Second, every case of insanity, including imbecility and idiocy, should be reported to the commission, whether they are under institutional or private care, or even if they may be encountered casually. Probably each of us knows some town fool, and probably none of them have been reported. Yet without them our statistics are inaccurate. If all cases under private care were added there would be an appreciable increase in the number of insane and defective of the State.

I think we should agree that by a *case* we mean an individual, no matter how many attacks he may have had. Psychiatry is still too inexact a science for us to count each attack as a disease entity, and the number of cases who have separate attacks of disorders not included under one head of our classification are sufficiently rare to deserve separate mention.

The members of this society can do much to make the statistics more accurate, and if each one agrees to fill out a card for every case which may come under his notice and forward to the commission I am sure that in a year or so we will have quite as accurate information as any other State, and the slight personal inconvenience will be more than compensated by the knowledge that our statistics are accurate.

The information on this card should include the following:

Name.....
Admitted.....
Discharged.....
No.....
Diagnosis.....
Previous or subsequent number.....
Forms of admission—Commitment.....
Transfer.....
Voluntary.....
Age.....
Occupation.....
Civil condition.....
Total number brothers and sisters.....
Nationality—Father.....
Mother.....
Nativity.....

Consanguinity.....
Education.....
Religion.....
Attitude thereto.....
Alcohol.....
Lues—Date.....
Height.....
Weight.....
Trauma.....
Cause of death.....
Result.....
Heredity.....
Stigmata.....
Previous alienation.....
Etiology.....
Date and manner of onset.....
Temperament.....
Complexion.....
Duration of psychosis.....
Birth.....
Birth No.....
Age first attack.....
Puberty.....
Menstruation.....
No. of children and miscarriages.....
Age of youngest.....
Menopause, age.....
Subsequent reports.....

The two cards which I pass around are in use at the Danvers (Mass.) and Sheppard hospitals, and show how a great deal of information may be put in a compact form.

In order to have these statistics as simple as possible we must have a common classification. It matters not whether we have another for our private use, but we must have a common meeting ground, even if it is no more than the old classification of mania, melancholia and dementia. It will be easy, however, to go far beyond this, and I would suggest the classification of Kraepelin as being quite adequate.

CLASSIFICATION OF INSANITY.

From Kraepelin (Seventh Edition).

I. Infectious Insanity.
   - A. Fever delirium.
   - B. Infection delirium (initial delirium of typhus and rabies, intermittent delirium, delirium of chorea, influenza, sepsis, acute delirium).
   - C. Infectious states of weakness:
     Cerebropathia psychica toxaemica.
     Expansive forms.

II. Exhaustive Insanity.
   - A. Collapse delirium.
   - B. Acute confusion (amentia).
   - C. Chronic nervous exhaustion.
     Acquired neurasthenia—Hypochondria.

III. Poisoning.

1. Acute.
2. Chronic.
   - A. Alcoholism:
     - Drunkenness, alcoholic intolerance, pathological drunkenness, *e. g.*, apoplectic d., mania acutissima ebriorum, twilight states.
     - Chronic alcoholism.
     - Delirium tremens { Abortive / Chronic / Febrile } forms.
     - Korsakow's psychosis.
     - Hallucinosis of the drinker.
       - Acute.
       - Subacute.
         - Systematized delirium.
     - Hallucinatory feeblemindedness of drinkers.
       - Alcoholic paranoia.
     - Alcoholic pseudoparesis.
   - B. Morphinism.
   - C. Cocainism.

IV. Thyreogenic Insanity.

- A. Myxedematous insanity.
- B. Cretinism.

V. Dementia Precox.

- Hebephrenic forms.
- Katatonic forms.
- Paranoid forms.
  - Dementia paranoides.
  - Fantastic paranoia.
  - Paranoia completa (delire chronique with systematized evolution).

VI. Dementia Paralytica (Paresis).

- Depressive form.
- Expansive form.
- Demented form.
- Agitated form (galloping paresis).
- Juvenile form.

VII. Insanity of Cerebral Diseases.

- General diseases:
  - Gliosis of cortex.
  - Diffuse brain sclerosis.
  - Huntington's chorea.
  - Multiple sclerosis.
  - Syphilitic diseases (lues hereditaria tarda, luetic feeblemindedness, luetic pseudoparesis).
  - Tabes psychoses.
  - Arteriosclerotic brain atrophy.
  - Post-apoplectic feeblemindedness, progressive arteriosclerosis, subcortical encephalitis, perivascular gliosis.
- Circumscribed diseases:
  - Tumor.
  - Abscess.
    - Hemorrhage, embolus, thrombus.
  - Injury, traumatic delirium, traumatic feeblemindedness.

VIII. INSANITY AT THE AGE OF INVOLUTION.
- A. Melancholia.
  - Anxious melancholia.
  - Hypochondriacal forms.
  - Depressive form.
  - Nihilistic form.
- B. Presenile delusions of prejudice.
- C. Senile dementia.
  - Presbyophrenia.
  - Depressive forms.
  - Senile persecutory insanity.

IX. MANIACAL-DEPRESSIVE INSANITY.
- Maniacal conditions.
- Depressed conditions.
- Mixed conditions, including atypical forms.

X. PARANOIA.
- Litigious insanity.

XI. EPILEPTIC INSANITY.

XII. PSYCHOGENIC NEUROSES.
- A. Hysterical insanity.
- B. Fright neuroses.
- C. Expectation neuroses.

XIII. CONSTITUTIONAL DISEASE CONDITIONS.
- A. Neurotic constitution.
  - Congenital neurasthenia.
- B. Constitutional excitement.
- C. Constitutional ill humor.
- D. Imperative insanity, phobias, folie du doute, etc.
- E. Impulsive insanities.
  - Impulsions and monomanias.
- F. Sexual abnormalities.
  - Onanism.
  - Exhibitionism, fetichism, masochism, sadism.
  - Sexual inversion.
  - Psychic hermaphrodism.
  - Effeminacy.

XIV. PSYCHOPATHIC PERSONALITIES.
- A. Constitutional criminals, moral insanity.
- B. Instability, pseudodipsomania, habitual criminals.
- C. Morbid liars and swindlers.
- D. Pseudolitigants.

XV. DEFECTIVE PSYCHICAL DEVELOPMENT.
- A. Imbecility.
- B. Idiocy.

It might be well to indicate on our statistical card, should our personal diagnosis disagree with the official one, that the case is a form of insanity not included in the classification, but such a contingency will probably rarely occur. When made this will serve to make a more accurate diagnosis, rather than a confusing one.

It should also be shown on the card whether the case is in an institution, is a private case, or is reported from casual knowledge, and the name of the informant; but these are details which can best

be worked out by those most concerned, that is, the Lunacy Commission.

In order to bring the matter before the society for action I would present the following resolutions:

(1) That the Lunacy Commission be requested to adopt a classification of mental diseases which shall be used by all who report cases.

(2) That they take measures for the registration of all cases of insanity.

(3) That they provide a card on which further statistics can be recorded than upon those now in use.

MURMUR OF THE HEART AUDIBLE AT SOME DISTANCE FROM THE PATIENT.

By Randolph Winslow, M.D.

I HAVE been asked recently in regard to a case observed by me many years ago, in which I heard distinctly a loud, rasping sound as I was seated by the man's bedside, and which was located within his heart. I have unexpectedly found a brief record of the case, and I wish to place it on permanent record. I am aware that the examination made and recorded was a very superficial one, but the facts are correct as far as they go.

The patient was a rather young colored man, named Henry Reson, who lived on Druid Hill avenue, near Biddle street. I was called to see him on November 25, 1879, at 3 A. M. I found him in bed, with a good pulse, but he was quite excited and nervous. He said he was not sick, but was worried about his sins. As I was sitting by his bedside I heard a humming noise which I supposed to be in the next house, and thought it was from a sewing machine or other machinery in action. I asked what the noise was, and the man said it was inside himself and was a "warning from the Lord." I listened to his chest and found a very loud and most peculiar rasping sound synchronous with the systole of the heart. I thought it must be an aneurism. He said the noise came on suddenly as he was walking along the street, whilst returning late at night from the restaurant where he was employed as a cook. I called to see him the next morning, and he met me at the door and said he was all right; that the sound left him when he realized the forgiveness of his sins. I examined his heart and found serious disease of the aortic valves, but no unusual murmurs of any kind. He returned to his occupation and I never was called to treat him subsequently. I learned, however, that he died a year or two afterwards, but I am ignorant of the cause of his death.

The point of interest in the case, as far as I am concerned, is the fact that an intracardiac bruit could be heard distinctly at some distance from the man, that it came on suddenly and subsided equally as suddenly.

Society Reports.

COUNTY SOCIETY MEETINGS.

The Anne Arundel County Medical Society held its annual meeting in Annapolis February 9. The following officers were elected: President, Dr. Thomas H. Brayshaw, Glen Burnie; vice-president, Dr. J. Oliver Purvis, Annapolis; secretary, Dr. Louis B. Henkel, Annapolis; treasurer, Dr. Frank H. Thompson, Annapolis; delegate to the Medical and Chirurgical Faculty of Maryland, Dr. Charles R. Winterson, Hanover; alternate, Dr. Samuel H. Anderson, Woodwardville, and censors, Dr. Thomas H. Brayshaw, Glen Burnie; James S. Billingslea, Armiger, and Oscar H. McNemar.

The Frederick County Medical Society has announced the following program for post-graduate study for its meeting on March 10, 1909, at 2.30 P. M., in the Y. M. C. A. Building, Frederick, Md.:

1. Dislocations—Classification, Etiology, Pathology, Treatment, Dr. D. E. Stone, Jr.
2. Diagnosis and Differentiation of Dislocations of Hip Joint, Dr. T. B. Johnson.
3. Diagnosis and Treatment of Complications of Elbow Joint, Dr. F. B. Smith.
4. Diagnosis and Treatment of Dislocation of Shoulder Joint, Dr. West.

Discussion, 2, 3, 4, Drs. Fout, Haffner, Browning, O. B. Stone.

Later meetings will be held on April 14 and May 12, programs of which will be published in the Journal.

The Medical Society of Washington County held its regular meeting on Thursday, February 11, in the Washington County Library Building. Papers were read by Drs. V. M. Reichard, J. B. Amberson, A. H. Hawkins, J. R. Laughlin and Arthur P. Herring.

The Howard County Medical Society met on January 29 at the Patapsco Manor Sanitarium at Ellicott City, Md. Dr. William Rushmer White was elected to active membership, and Drs. James Bosley, Marshall Smith and Edward S. Lamdin of Baltimore to honorary membership. Addresses were made by State Senator Arthur P. Gorman, who strongly endorsed State care of the insane, and Dr. Arthur P. Herring of Baltimore.

The regular monthly meeting of the Baltimore County Medical Association was held at Raspeburg, Md., with the president, Dr. Richard F. Gundry, presiding. Papers were read by Drs. Frank J. Sladen and Hiram Woods.

Book Reviews.

A Textbook of General Bacteriology. By Edwin O. Jordan. Price, $3 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co.

This work of Professor Jordan presents a very good outline of the subject for the beginner in bacteriology, and is as valuable for that purpose as any that we have recently seen. The fundamental principles, as well as the routine laboratory methods, are treated in a clear and concise style, and the illustrations throughout the book will be found useful to the student. We should like to see the all-important subject of immunity treated with greater detail, as its importance in bacteriology and clinical medicine demands a most careful study.

Marriage and Disease. By Prof. H. Senator. Translated from the German by J. Dulburg, M.D. Price, $2.50 net. New York: Paul B. Hoeber. 1909.

In this interesting volume some 20 German teachers give their views in regard to the subjects assigned to them, such as: "The Hygiene of Married Life," "The Relations of the Physiological Conditions of Women to Marriage" and of "Sexual Perversions." The editors intend the book for the use of the laity, to take the place of the old-fashioned talks of the family physician. We do not believe that either in language or in subject matter it is suited to perusal by the laity. It is, however, a very instructive book for the physician's library, presenting the subjects in a scientific and interesting way.

Orthopedic Surgery for Practitioners. By Henry Ling Taylor. New York: D. Appleton & Co. 1909.

In "Orthopedic Surgery for Practitioners" Dr. Taylor has produced a book absolutely modern and up to date. The subjects are arranged logically, the illustrations are numerous and the text is not too technical to be irksome, yet sufficiently comprehensive to be an excellent guide to general practitioners. Much attention is given to joint lesions of obscure nature, a chapter of medicine which is today demanding the best thought of our most brilliant minds.

Disorders of the Bladder. F. Cabot. New York: E. B. Treat & Co. 1909. Price, cloth, $2 net.

This book serves its purpose well, namely, the introduction of students and general practitioners to the mysteries of diagnosis and treatment of the common diseases of the bladder. It is, however, too sketchy for the specialist. The chapter on cystoscopy is very instructive, both the technic of cystoscopy and ureteral cathertization being fully described.

Surgical Diseases of the Abdomen. Second edition. By Richard Douglas. Price, $6 net. Philadelphia: P. Blakiston's Son & Co..

Heretofore authors on surgical diseases of the abdomen have emphasized the several operative procedures rather than diagnosis, equally as important.

It is, therefore, refreshing to learn that at least one surgeon recognizes the difficulty associated with the diagnosis of abdominal affections and the paucity of the literature upon this all-important subject. This edition brings the book up to date. Teachers of surgery will find in it many valuable suggestions, and the general practitioner an invaluable reference book.

The Mind and Its Disorders. By W. H. B. Stoddart. Price, $4 net. Philadelphia: P. Blakiston's Son & Co. 1909.

In this volume neurology and psychiatry are approached in a rational manner for the proper study of these subjects. It is a book that all students of nervous or mental diseases should read and a book that would be interesting and instructive to all general practitioners. It is well written, concise, well arranged and presented in an extremely interesting and instructive manner.

The Urine. By J. W. Holland, M.D. Philadelphia: P. Blakiston's Son & Co. Price $1 net.

The eighth edition of Dr. Holland's book presents a dependable guide for the clinical study of the urine, gastric contents and milk, together with a guide for the recognition of the common poisons. The tests are, for the most part, clear cut, without needless expenditure of words. It is regretable that more space is not given to the import of the various pathological findings rather than to the unnecessary multiplications of tests for the same.

Food Poisoning. By A. Dieudonné. Translated by C. F. Bolduan. New York: E. B. Treat & Co. 1909. Price $1 net.

That the condition designated ptomaine poisoning, according to the author, is due either to absorption of the products of putrefaction, following the action of the bacillus proteus, or the bacillus coli, upon dead food material, a toxemia; or the ingestion of bacteria with food and entrance of these organisms, especially the bacillus enteritides, or the bacillus paratyphus through the gastrointestinal tract into the general circulatory system, a septicemia; in proof whereof he adduces strong substantiative evidence. Among the subjects treated are meat, ice-cream and fish poisoning. The book is well written and concise, the conclusions logical and the treatment excellent.

Surgical Diseases of Children. By Samuel W. Kelley, M.D. New York: E. B. Treat & Co. 1909. Price $5 net.

This book is unique in that it treats only of diseases, both common and rare, to which childhood is heir. The subject matter is arranged logically and the text is greatly simplified and enhanced by a generous number of illustrations, most of which are original. Teachers of pediatrics and surgery will find it indispensable in their educational work, and general practitioners an invaluable reference work, especially as each subject, though not neglected, is sufficiently full and succinct and not so weighed down with statistics as to be irksome.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D., *Editor*

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BALTIMORE, MARCH, 1909

FLAT FOOT.

TO THE uninitiated flat foot is an ugly deformity, to be made a subject of passing jest or to be hidden from sight and ignored. In the literature of American slave days the "foot like a shovel" is a mark of race inferiority and a sign of general worthlessness. The slow and shuffling gait of the unfortunate possessor made him a slow worker and a still slower messenger, while the surly disposition so often bred in the deformed by mockery, ill-treatment and a sense of insufficiency for the demands of modern life added the stigma of moral degeneracy to the already sufficient physical and mental handicap.

It is one of the signs of the growing humanity of our race under the teachings of our religion touching the brotherhood of man that people are beginning to look upon the deformed and the handicapped not with scorn, but with sympathy, and, searching for the underlying causes of the defect, to endeavor after its remedy. Dwarfs are no longer kept in households for the entertainment of curious visitors and the working off of family ill-temper, and the half-witted are no longer dressed in outlandish array and subjected to the kicks and buffoonery of lazy ladies and ennuied gentlemen. Our sense of rightness has been shocked and a certain humility has been added to our public character by certain modern discoveries in this direction. For instance, the child of our schoolboy days who "didn't have sense enough to keep his mouth shut" we now know "does not keep his mouth shut enough to have sense." In other words, the adenoids in his upper pharynx have both caused mouth-breathing and stunted his intellectual growth. So, too, the much-despised "good-for-nothing" mountaineer in certain States is now known to owe his stupidity and general forlornness to intestinal parasites, which can easily be expelled by thymol and other drugs.

Flat foot should be looked upon in the same way. It is undoubtedly due to general innutrition and lack of development,

supplemented, perhaps, by birth or other injuries. It is really a disgrace, not to the patient, but rather to the community which permits the poor to grow up in sunless, insanitary homes, and allows mothers to be overworked and overworried during pregnancy, and to have for themselves and for their little children food which in quality and in quantity is insufficient to build normal bodies.

The causes and cure of severe flat foot are well worked out by specialists. Only recently we have a favorable report on excision of the scaphoid for this trouble in its rigid state. Our theme at this time is rather that mild grade of flat foot which often escapes the observation of the physician, yet is a serious element in certain diseases which present themselves to him. The patient may have a mild flat foot from childhood, which has become harmful through the general loss of muscular power in old age. Sometimes the flat foot is recently acquired, as the result of debilitating diseases, such as enteric fever, the muscles involved not sharing in the general recovery of health during convalescence. Again, the stout person may have overstrained the foot arch, either long since or as the consequence of sudden fattening. In all these cases the patient does not suspect that the flattening has anything to do with his symptoms. He either does not know that it is present or does not tell the doctor of it. The symptoms of such a condition are often very obscure. Sometimes there is a neuralgia or "rheumatism" of the foot or leg, which has been treated with liniments or internal dosings. There may be only a general listlessness and tendency to lounge about indoors. The patient tires easily or gets a backache, and doesn't get the outdoor exercise and fresh air or companionship necessary to health of body and mind. Corpulence and constipation and their dyspeptic accompaniments ensue. The schoolchild is a poor student and doesn't care for play. It is easy to see how far-reaching the effects of this slight deformity may be.

If the doctor place his hand under the foot, he can feel in an instant the sagging of the arch, as it is unequal to the full body weight. The doctor should adjust a pad to meet the need, and after he has worked it out may send the patient to an intelligent shoemaker. The pad may be needed for only a short time, the eased muscles recovering their tone.

This condition should be suspected in all indolent patients, in all suddenly corpulent persons and in all convalescents from grave illnesses. Active and passive resistance movements are indicated.

Medical Items.

Dr. Claude Van Bibber, 9 East Read street, is confined to his home from illness resulting from a fall.

A movement to secure immunization against typhoid by vaccination is on foot among the United States Army authorities.

Eugene L. Pessagno, M.D., Johns Hopkins University, '07, and Miss Mary L. Eyerly were married February 11, 1909. They will reside in Baltimore.

John R. Winslow, M.D., has returned from Richmond, Va., where he presented a paper to the American Rhinological, Laryngological and Otological Society.

Dr. H. H. Esker of Bayview Asylum was operated on at the City Hospital for an infection of the hand, due to a small scratch sustained while operating upon a patient.

Dr. G. Milton Linthicum during a speech at the new Baltimore Medical College Building stated that dogs had no more place in a city than cows or pigs. The lecture has provoked much comment.

Dr. Clemens von Pirquet of the University of Vienna has arrived in Baltimore and will take charge of the Harriet Lane Home for Invalid Children and will occupy the chair of Pediatrics in the Johns Hopkins University.

Dr. William G. MacCallum, associate professor of pathological physiology at the Johns Hopkins Medical School, was elected to the faculty of medicine of Columbia University, New York, on Monday, February 1.

The February meeting of the Laennec Society at Johns Hopkins Hospital was well attended and much interest evinced in the papers read. The following program will be rendered at the next meeting of the society, which will be on March 25: "A Study of Recent Educational Leaflets," Charles J. Hatfield, M.D., Philadelphia; "Marmorek's Serum in the Treatment of Pulmonary Tuberculosis," Samuel Wolman, M.D.; "The Employment of Arrested Tuberculous Cases," Alexius M. Forster, M.D.

The Book and Journal Club held a meeting and smoker at the Faculty Hall Tuesday, February 23. Dr. William H. Welch read a paper on the Book and Journal Club, and Dr. Charles L. Dana on "Canticles of the Early Renaissance Anatomists."

Dr. William S. Osler, regius professor of the University of Oxford, will attend the dedication of the new library of the Medical and Chirurgical Faculty of Maryland, which will occur May 13, 14 and 15. Dr. S. Weir Mitchell of Philadelphia will also be a guest of the faculty on that occasion.

A series of free health lectures are being given under the auspices of the Medical and Chirurgical Faculty of Maryland at the new Baltimore Medical College Building, North Howard street. The lectures are being given each Tuesday evening during February and March. On February 16 Dr. William T. Spratling, formerly of the epileptic colony of Sonyea, New York, gave an interesting lecture, urging State care for epileptics, and strongly advocated the organization of a colony near Baltimore.

DEATHS.

Edmund George Waters, M.D., University of Maryland, '53, at the Union Protestant Infirmary, February 18, 1909.

Jacob Preston Miller, M.D., Medical College of Ohio, '78, at his home in Washington, D. C., January 23, aged 56, of nephritis.

John H. G. Weedon, M.D., University of Maryland, '64, of Church Hill, Md., at the Maryland University Hospital, February 17, aged 74, of Bright's disease.

Isaac Ambrose Barber, M.D., Hahnemann Medical College, Philadelphia, '72, at his home at Easton, on March 1, 1909, aged 57 years, from apoplexy.

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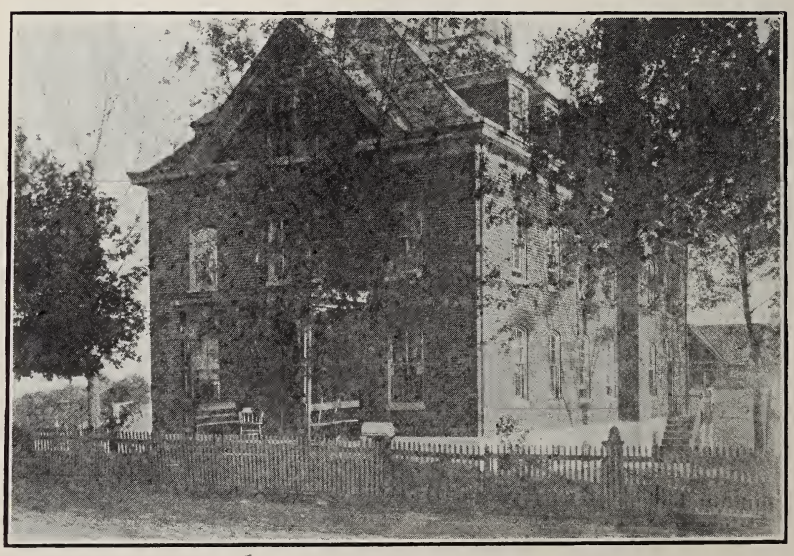

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REGULAR MEETINGS OF THE BOARD OF MEDICAL EXAMINERS OF MARYLAND.

Fourth Tuesday in April.
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Information connected with medical examinations and licensure by addressing Secretary J. McP. Scott, Hagerstown, Md.

Communication.

Editor Maryland Medical Journal:

Having been a subscriber to your journal since its first issue, a frequent contributor, and being known to most of your readers, are my reasons for publishing the following cases:

The treatment of intestinal indigestion with sour milk is nothing new. I myself treated such cases many years ago with buttermilk, kumyss and matzoon, but not until last spring, persistently, with bonny clabber. At that time and during the summer I had under my care three desperate cases of the above-named disease. The first patient had been sent to the best hospital in the city to be treated as the physicians in charge thought best, but without benefit. The second was in so desperate a condition that she had been taken to the best hospital in another city to have the operation of gastro-enterostomy performed. She could scarcely retain anything and had been vomiting blood. The third patient had not been in a hospital, but had been staying in a city under the care of 10 physicians, including surgeons and stomach specialists. All these patients were women and had received the best treatment as far as drugs were concerned, but they were unavailing. Their ages ranged from 55 to 77. The death of the last and eldest patient was expected hourly for several days, but the other two were in what seemed a hopeless condition for two months. All of these women are now in comparatively fair condition as a result of the use of clabber. They all had to be tided over a certain period with strychnine and opium, but clabber was the only curative agent. Kumyss and matzoon cannot be depended upon, as we cannot always get them, and when we do they are often spoiled. Buttermilk is an uncertain quantity, as some persons churn every day, and such buttermilk is nothing but sweet milk deprived of fat. Others keep their milk until partial decomposition has taken place. Clabber of the best quality can be obtained by setting aside good, sweet milk until it coagulates. Of all the foods I have ever used in these cases, sweet milk was the worst, being the greatest gas producer and the best medium for the cultivation of bacteria, which cause the disease under consideration. In all of these cases there was vomiting, constipation and diarrhea alternately, a great amount of gas and very weak, intermittent pulse. All of the remedial agents known to the profession were tried in these cases, but clabber was the only curative agent. The lives of these patients have been prolonged from six to nine months beyond expectation, and they may live several years longer.

It is a very common thing for aged persons, particularly after having lost their teeth, to suffer from intestinal indigestion, and if the plan of treatment recommended should be adopted in all such cases, the span of human life would be very much lengthened.

EDWARD ANDERSON, M.D.

Rockville, Md., February 10, 1909.

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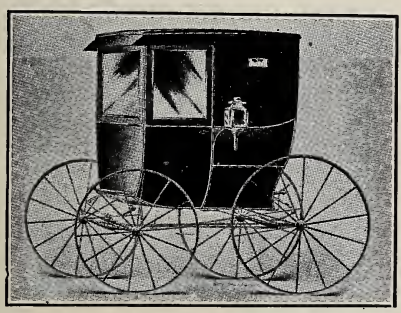

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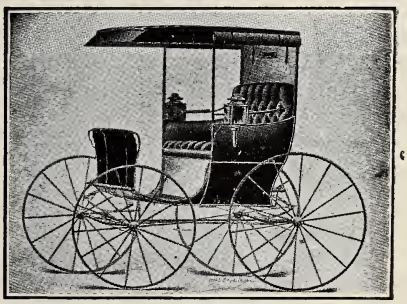

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Announcements.

MEDICAL DEPARTMENT OF WESTERN RESERVE UNIVERSITY, CLEVELAND, OHIO.

The Medical Department of Western Reserve University was one of the pioneers in demanding some college work for entrance. In 1898 it announced that, beginning in October, 1901, the completion of the junior year would be required for entrance. In the eight classes which have entered since 1901 an average of 86 per cent. of the matriculates have either held a bachelor's degree on entering or have obtained it at the end of the first medical year.

In May, 1908, the faculty unanimously voted to recommend a further advance in entrance requirements to the point of requiring a degree for unconditional entrance, but to admit conditionally a man who had completed the junior year in a standard college (conditioned on the degree being granted by the college from which he had come before entering the junior year in the Medical Department). In November, 1908, this vote was unanimously reaffirmed, and on December 17, 1908, the board of trustees of Western Reserve University voted that beginning with the academic year 1910-11 (*i. e.,* in October, 1910) the following requirements for entrance to the Medical Department of Western Reserve University shall be in force:

I. TIME REQUIREMENT.

1. The requirement for *unconditional* entrance to the Medical Department of Western Reserve University shall be graduation from an approved college or scientific school granting the degree of A.B., B.S., Ph.B., Litt.B. (or equivalent) following the completion of a course of at least three collegiate years and including all the subject requirements enumerated under II.

2. *Conditional* entrance will be granted upon the completion of the work of the junior year in the course of an approved college or scientific school, enforcing a four-year course, leading to the degree of A.B., B.S., Ph.B., Litt.B. (or equivalent degree), including the subject requirements enumerated under II, conditioned upon the student obtaining a baccalaureate degree before he enters the third year in the Medical Department of Western Reserve University.

3. Students who have obtained their academic training otherwise than in institutions conferring the above degree (for instance, at foreign institutions of collegiate standing) may be admitted on presenting evidence, by acceptable credentials or by examination, showing that their education is fully equivalent to that implied by a degree from an approved college or scientific school, including the subjects enumerated under II.

II. SUBJECT REQUIREMENTS.

All candidates for admission under I must show by examination or by acceptable credentials that they possess such knowledge of inorganic chemistry, physics, biology and Latin as may be obtained by satisfactory completion of the following courses:

A. Inorganic chemistry, including qualitative analysis, as represented by a course containing at least five actual hours per week through one collegiate year, of which at least one-third shall be laboratory work.

B. Physics as represented by a course of at least three actual hours per week for one-half collegiate year, of which at least one-third shall be laboratory work.

C. Biology (botany or zoology or a combination of these), as represented by a course of at least three actual hours per week for one-half collegiate year, of which at least one-third shall be laboratory work.

D. Latin of at least one year's work, as represented by Latin grammar and the reading of four books of Cæsar or equivalent.

Conditional entrance, however, may be granted to a student deficient in all of one of the requirements A, B, C and D or in part of any two of them, but all such conditions shall be removed before the student shall be allowed to enter the second-year class as a regular student.

THE AMERICAN SOCIETY FOR THE STUDY OF ALCOHOL AND OTHER NARCOTICS.

The society will hold a meeting at Washington, D. C., March 17, 18 and 19, in the afternoons and evenings, for the presentation and discussion of papers on the various phases of the alcoholic problem.

This society was organized in 1870, and was the first medical association to take up the study of alcohol and the diseases following from its use. The present meeting is a response to an invitation from leading men at the Capital to present to the profession and public some scientific and authoritative conclusions concerning the alcoholic problem based on the

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Editorial Comment.

TUBERCLE BACILLI IN THE CIRCULATING BLOOD.

Boston Medical and Surgical Journal.

In the current number of the *American Journal of the Medical Sciences* Dr. Randle C. Rosenberger, assistant professor of bacteriology in the Jefferson Medical College, makes a brief but important statement relative to the result of his researches on the presence of tubercle bacilli in the circulating blood. Instances in which tubercle bacilli have been recovered from the blood on the whole have been rare, and then only in cases of the acute miliary form, but the occurrence of the organism in the thoracic duct in persons dead of tuberculosis has led to the belief on Rosenberger's part that all forms of tuberculosis are characterized by a bacteriemia. It has long been recognized that various infections accompany the terminal stages of pulmonary tuberculosis, but the observations made on this point Rosenberger is inclined to regard as somewhat exaggerated, judging from his own bacteriological investigations. In carrying out the attempt to demonstrate the occurrence of bacilli in the blood as a constant feature of the disease 50 cases have up to the present time been studied —5 diagnosticated as acute miliary tuberculosis, 2 as fibroid tuberculosis, 1 as pneumothorax, 15 as incipient tuberculosis, 23 as moderately advanced tuberculosis and 3 as laryngeal tuberculosis, together with 1 case in which it was possible to examine the blood from the umbilical cord of a placenta delivered from a tuberculous mother. In all of these cases tubercle bacilli were demonstrable, for the most part in large numbers. In general the organisms were normal in size, although some unusual forms were met. As a result of this work Rosenberger has been led to the conclusion that tubercle bacilli occur in the blood in all forms of tuberculosis, even in the so-called healing cases. The practical value of this observation lies in the possibility of diagnosticating incipient tuberculosis through blood examinations before the bacilli can be detected in sputum or elsewhere. The writer adds as a footnote that up to January, 1909, he had studied 125 cases and had found tubercle bacilli in all. The disparity of this statement and the other of 50 cases studied no doubt is due to the time which has elapsed since the article was offered for publication, though no statement of this fact appears. If other observers confirm Rosenberger's findings in this matter, a still further demonstration of the wide dissemination of the tubercle bacilli in the body, together with a possible early means of diagnosis, will have been secured.

A NEW VIVISECTION PERIL.

Medical Record.

Argument, such as it is, vituperation and misrepresentation having failed to abolish entirely, although they have seriously hampered scientific investigation in Great Britain, an ingenious Irish anti, possessed of the faith which moves mountains, has devised a new plan to save the lives of guinea-pigs by taking those of physiologists. According to a dispatch in *The Sun* of recent date, this lady, Cowan by name, has sent a circular to the leading surgeons and physiologists of the United Kingdom warning them that she intends to accomplish their removal through the agency of prayer. The circular says that she had decided first to procure thus the death of Dr. Stirling, professor of physiology at the University College Hospital of London. But "it seemed unfair to give such a stab in the dark," so she made her petition more indefinite, leaving it to the Almighty to choose the victim. She besought Him, therefore, to remove, if in accordance with His will, the man most likely to cause future suffering to innocents by experiments. About a fortnight later a vivisectionist died. The gentle lady is now assured that she has the approval of Heaven in her righteous undertaking, and warns the recipients of the circular that she will continue to pray against them. There is not the slightest doubt that she will succeed if she only has perseverance, and that in time all those who are now working for the saving of human life will die.

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American Medicine.

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LITERATURE AND SAMPLES ON REQUEST

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tures cannot be regulated in a minute to satisfy everybody's wishes. It takes time to establish standards fair to all and to execute them in a square way without doing needless harm and injury. We do not agree with Dr. Warbasse that an official journal should have no advertisements, unless all advertisements are wrong, in which event no journal should accept them. The matter cannot rest here, for if all advertisements are venal the products advertised are likewise, and the whole business of medical and pharmaceutical supplies is wrong. Surely this is the *reductio ad absurdum* and comes pretty close to the rash mistake of the Psalmist, who was admittedly altogether too hasty and generic in condemning his fellow-men. No, the pharmaceutical business, the publishing business and the other enterprises that commonly advertise in medical journals are as honest as medicine itself. They have their evils and their rotten spots, but so has medicine. The problem is to find the good and eliminate the bad, and the official journals are in an admirable position to aid in its solution. Narrow prejudices, personal ill-feeling and petty antipathies will never help. Common sense, a temperate exposition of fallacies and a scientific consideration of mistakes will do more to overcome the real evils than all the vituperation, mud-slinging and muck-raking in the world. Intolerance and ill temper only substitute one evil for another.

Excerpts.

TRACHEOBRONCHOSCOPY AND ESOPHAGOSCOPY.

Until quite recently direct inspection of the larynx and trachea has been possible only in a very limited and imperfect manner, by means of mirrors, and the removal of foreign bodies lodged in the lower portions of the trachea or esphagus, or in the bronchial tubes, was well-nigh impossible without an incision. But, thanks to the genius of Professor Killian of Freiburg, we now have, in his bronchoscope, an instrument by which we can inspect every portion of the larynx, trachea, bronchi, and even *bronchioles,* the oesaphagus, and the greater part of the stomach, extract foreign bodies from these structures, make topical applications or remove morbid growths. Formerly a foreign body in the bronchial tubes was almost certain to cause death eventually, unless coughed up, but now it is a comparatively simple matter to remove it through the long tube of the bronchoscope by means of specially-devised forceps.

Bronchoscopy is usually required for the extraction of foreign bodies more than for any other purpose, though it is also used for the local application of weak solutions of silver nitrate in ulcerated and chronic conditions of the larynx and trachea, and for diagnostic purposes. It is practiced upon children with as much success as upon adults, and is more often needed for them, since their universal habit of testing articles with the mouth brings about a large number of bronchial foreign body cases as a sequel. Also the danger is greater in the case of an infant on account of the smaller size of the respiratory tubes, and the chance of immediate suffocation if not relieved.

No time should be lost in attempting to remove a foreign body from the respiratory passages, for at any moment it may assume a more unfavorable position and cause sudden death, or its long-continued presence may cause local oedema, septic absorption or pneumonia. If necessary, tracheatomy should be resorted to in order to relieve the suffocative dyspnoea, though this will be useless if the foreign body is in the lower respiratory tract.

There are two methods of bronchoscopy—*upper,* in which the tube is introduced through the mouth, and *lower,* in which it is introduced through a tracheal incision. The former is practiced in all cases, and the latter where the former has failed, a larger and shorter tube being used in the lower operation.

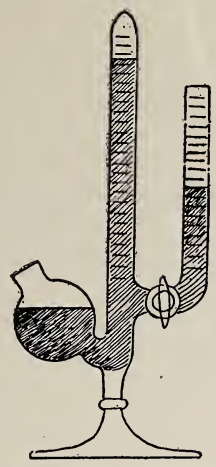
If the operator fails to find the foreign body, and thinks he can do so by lower bronchoscopy, or if he locates it and it is too large for removal by the upper route, he performs a low tracheotomy, introduces the tube through the wound and proceeds with the examination.—*Otis H. Johnson, B.A., M.D., in Atlanta Journal-Record of Medicine.*

SUTURE OF HEART WOUNDS.

There is no longer any question as to the propriety of the operation, since 35 per cent. of the patients recover compared with 15 per cent. (according to Holmes and Fisher, 1881) of recoveries after non-operative treatment—a gain of 20 per cent.

The mortality is practically the same that it was 12 years ago, when the operation was first introduced, and it behooves the surgeon to study the matter and find a means of improvement.

The two great causes of death are hemor-



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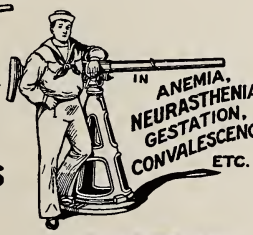

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rhage and inflammation of the pleura or pericardium. Probably little more can be done than has been done to prevent death from hemorrhage, inasmuch as more than half the patients who survive 20 hours have infection.

There is room for great improvement in preventing infection. Besides the observance of strict asepsis, the question of opening the pleura and of draining the pleura or pericardium, acting as predisposing causes of infection, is of the greatest importance.

As a rule, therefore, the pericardium and pleura should not be drained.—*George Tully Vaughan, in Journal of the American Medical Association.*

POSSIBILITIES OF INFECTION FROM TABLE UTENSILS AT SANATORIA.

Forks, spoons, tea cups and milk glasses in constant use by advanced tuberculous patients were used in these experiments.

On the first day 30 forks and 25 each of spoons, tumblers and tea cups were chosen immediately after ordinary good washing, but not sterilization, and cleansed with sterile 5 per cent. sodium bicarbonate solution by means of sterile cotton swabs, and the washings distributed among 56 guinea-pigs by subcutaneous injection. No knowledge of the intended experiment was conveyed to the hospital nurses or maids. All pigs were killed in 41 days and found to be free of tuberculous infection.

On the second day, several months later, five articles of each sort, immediately after use and before washing of any kind, were cleansed as described above and the washings injected subcutaneously into guinea-pigs, two pigs to each five articles. These animals were killed also in 41 days after inoculation, and all were found to be tuberculous except those inoculated with the washings from the milk glasses, which developed no lesions whatever.

Later the first experiment was repeated with the use of six articles of each kind and the washings distributed among 12 pigs, and with the same result. Smears made on slides from the glands and spleens of all pigs used in the first and third experiments, and examined microscopically for tubercle bacilli, were found to be negative in every instance.

While the sterilization of tableware used by consumptives is not to be discouraged, the danger of infection from that source, when it is not possible, does not seem to be great.—*J. Woods Price, M.D., Saranac Lake, New York.*

MARYLAND
MEDICAL JOURNAL
A Journal of Medicine and Surgery
Vol. LII, No. 4 BALTIMORE, APRIL, 1909 Whole No. 1091

THE PRESENT STATUS OF TUBERCULOSIS WORK AMONG THE POOR.

By Mary E. Lent and Ellen N. LaMotte.

THE EXHIBIT OFFERED BY THE INSTRUCTIVE VISITING NURSE ASSOCIATION OF BALTIMORE AT THE INTERNATIONAL CONGRESS ON TUBERCULOSIS.

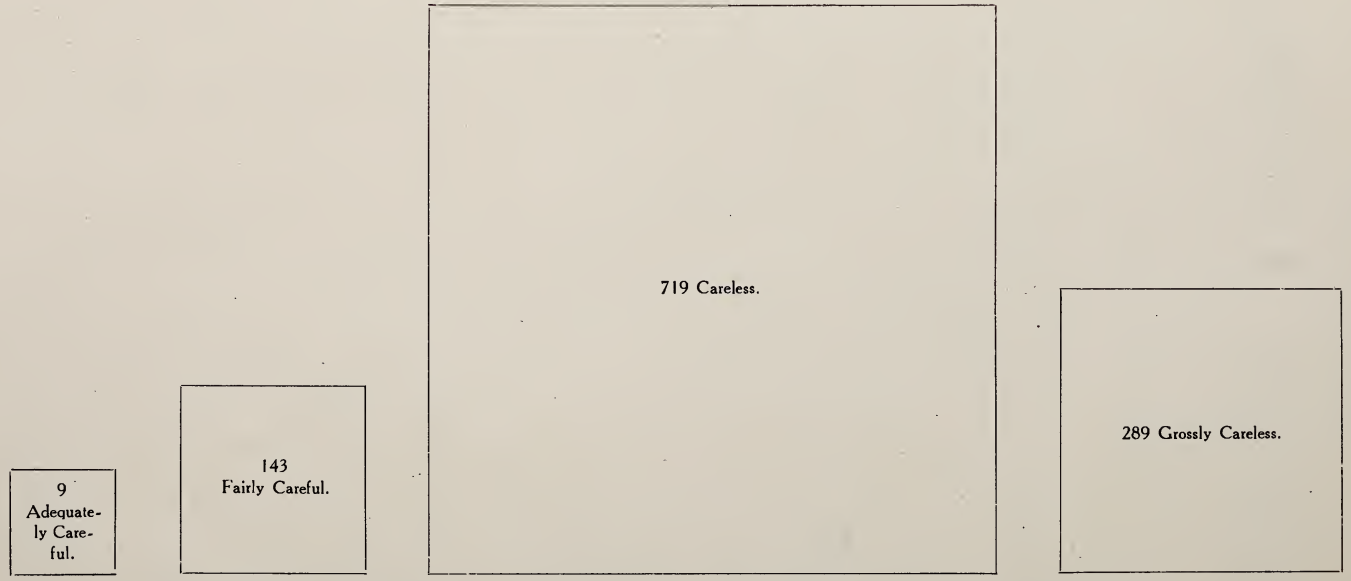
THE exhibit offered by us at the International Congress on Tuberculosis was intended not only for the purpose of demonstrating the work of the nurses, but also for a far more important end, namely, to awaken the attention of tuberculosis workers generally and as many of the public as possible to the inefficiency of the present method of combating tuberculosis among the poor.

The Instructive Visiting Nurse Association of Baltimore was the first district nursing association to place a special tuberculosis nurse in the field. In March, 1904, such a nurse was assigned to duty in a district which covered one-half of the city of Baltimore. She received calls from all sources—from physicians, dispensaries, charitable agencies and the like—and her list included about 80 patients. In May, 1906, another tuberculosis nurse was appointed, and in June, 1907, two more were added, so that the present staff consists of four nurses, whose districts cover the whole city and whose lists contain the names of nearly 1500 patients. In accordance with the sentiment which prevailed at the beginning of the tuberculosis campaign, namely, that education of the poor in their homes was the proper weapon for exterminating the disease, the work of the nurses consisted for the most part in giving instruction. The general plan of the work was as follows:

1. Instruction of the patient in regard to the nature of the disease, the value of food, rest and air, the use and disposal of sputum cups, fillers, handkerchiefs, pockets, disinfectants and the like, supplied by the nurse. Milk and eggs, warm clothing, beds and coverings, and such things as may be necessary for carrying out the open-air treatment, provided through charitable agencies.

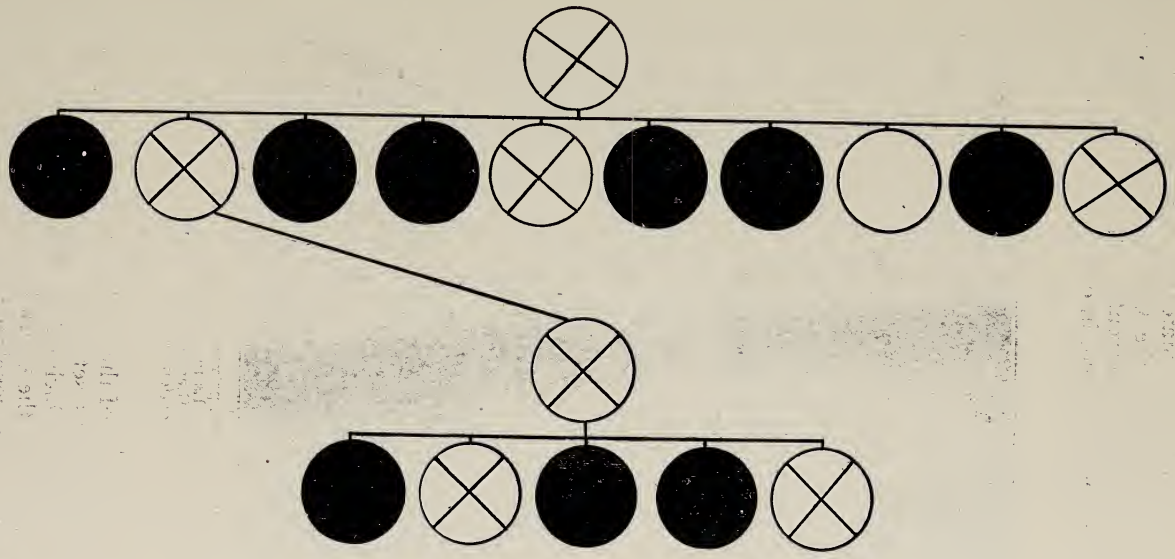
2. Instruction of the patient's family in regard to the nature of the disease; the necessity for isolating the patient by giving him a separate room, or, if this is impossible, a separate bed; the care of utensils and clothing used by the patient, and all other necessary

CHART No. 1



FUTILITY OF THE EDUCATIONAL METHOD AS APPLIED TO PATIENTS ON OR BELOW THE POVERTY LINE. THEY CANNOT BE TAUGHT TO APPLY THE PRINCIPLES OF PROPHYLAXIS TO THEIR DAILY LIVES BECAUSE THEY LACK THE MENTALITY, THE MORALITY AND THE ENVIRONMENT REQUIRED.

CHART No. II

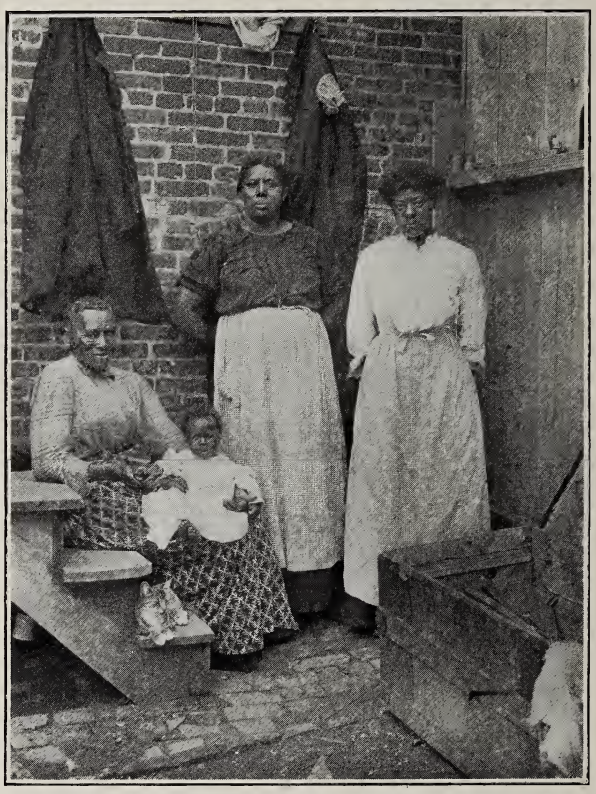


●=Died of tuberculosis. ⊕=Has tuberculosis. ○=Alive and well.

Tuberculosis family found by nurse, showing the effect of contact and exposure. The only member of the family alive and well has been living for several years in another State.

points which concern either the comfort and well-being of the patient or the prophylaxis of the disease.

3. Registration with the State Board of Health of all cases diagnosed; report made to the City Health Department of all houses or rooms in which tuberculous patients have died or from which they have been removed, in order that these places may be fumigated.



2. Four generations of consumptives. No one in this family could be taught the use of any precautions. Laundry work done in their homes has been their chief occupation, so that they have been sources of infection not only among themselves, but to the portion of the community which employed them.

All of these features of the work were illustrated in the exhibit, but its chief object was set forth in the series of photographs, posters and diagrams which called attention to the inadequacy of the results obtained by the educational method and the causes for this inadequacy. Our conclusions in regard to this have been drawn from careful records kept during nearly five years of continuous work, in which 3000 cases of tuberculosis were dealt with. When the work was first undertaken we were dealing with possibilities and surmises. Our plan of action was based on a hypothe-

sis which we were about to test. At present we are occupied with the results of the test; we have discovered the limits beyond which our hypothesis will not work; we are now dealing not with possibilities and surmises, but with facts. We have studied the conditions at first hand, with every possible opportunity to observe them closely and repeatedly and with all the advantages afforded by uninterrupted service during a period of five years. The facts and conditions set forth in the exhibit are representative, and embody so far as possible the net results of our experience in this field of tuberculosis work.

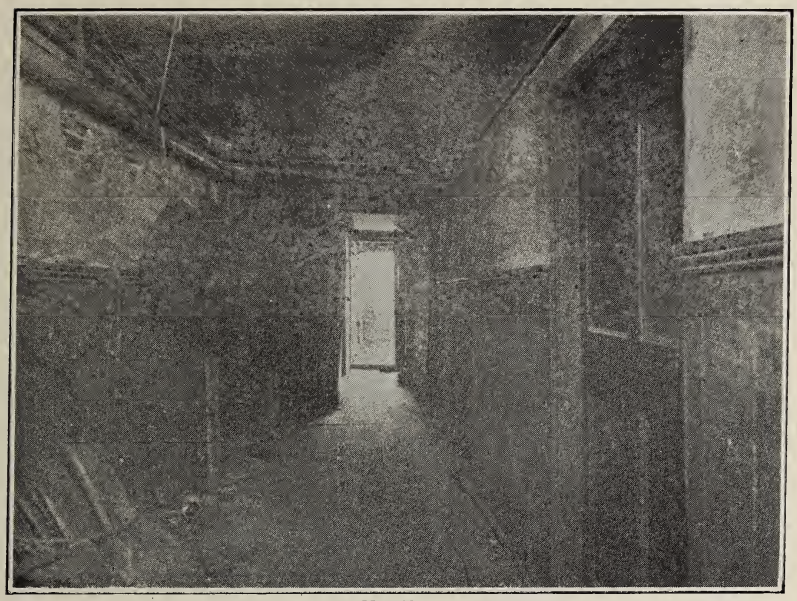
In the campaign against tuberculosis, as in any other effort to deal with the evils besetting society, the two primary factors to be

3. Picture of a widow with eight children. The husband and father was an advanced and grossly careless consumptive, who refused to use the slightest precautions in spite of persistent efforts to teach him. Before his death he infected his wife and four children. Because there was no provision for the *prevention* of such infection, the community is now supporting these five cases in a sanatorium. All nine are public charges.

dealt with are humanity and environment—humanity that creates environment and environment that distorts humanity. It is the inseparability of these factors as they appear in the concrete facts of existence that renders the educational method futile in the conduct of the tuberculosis campaign among the poor. Their mentality, their attitude toward life, their manner of living, their surroundings, all of which are inextricably associated, either as cause or effect, or as both, with the very fact of their poverty, absolutely preclude the possibility of their making any effective use of the instruction given them, however nicely this may be adapted to its

4. Picture of a court, showing porch accessible to a patient. The porch overlooks garbage cans, a surface drain, a dirty vault; therefore the patient refuses to take the measures at hand for taking the "air cure." You can move this patient into "better surroundings," but you have not removed the conditions that make for lowered resistance in the next occupant of these quarters.

No. 5.



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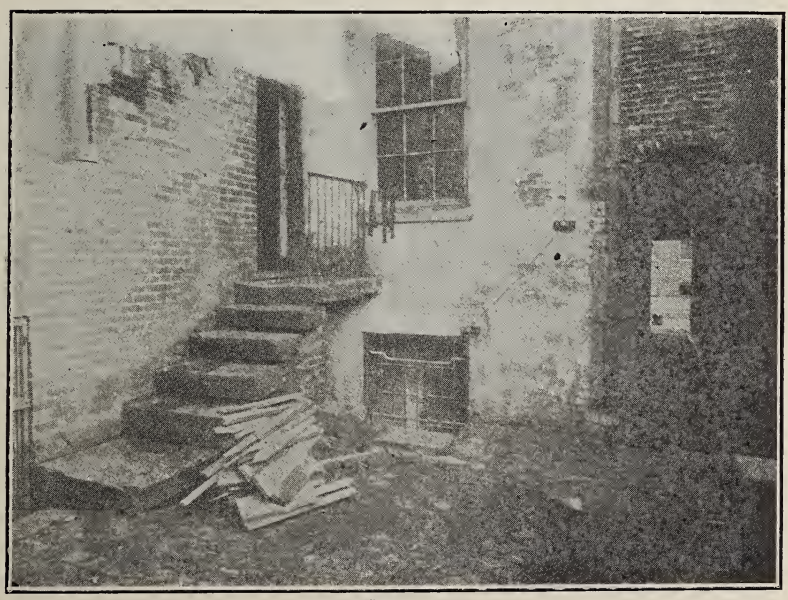


No. 11.

5 and 10 and 11. Three views of the home of a tuberculosis patient who was below the poverty line. Charitable relief procured better quarters after he had occupied these for several months. Place now waiting for new occupant. Which would afford a more likely solution of the problem—relief and instruction at the stage at which patient was found, or a system which would insure his discovery and immediate segregation at an earlier stage?

end or however skillfully and perseveringly followed up. If this is the right reading of the facts presented to us in the experiences of these years, what, then, is the present status of the tuberculosis problem?

Tuberculosis is primarily a disease of the poor. It is among them that the issue must be fought out. Not till the battle is won among this class of the population will the rest of the community be safe. In this matter, therefore, the welfare of society is made to depend upon those of its members who are least fitted for the task. In no other instance today is the safety, well-being and happiness of thousands of the strong, intelligent and competent members of the community made to depend upon the weak,

6. Picture of a grocery store kept by a consumptive, aided by the older members of a family of six children. The four older children all have tuberculosis. That portion of the community dealing at the store consumes regularly bread, milk and other foodstuffs handled by these consumptives. Would you like to take the risk?

ignorant and helpless—a reversal of the proper order of things that reduces the situation to an absurdity. Nor is the absurdity lessened when we consider the method by which we are endeavoring to adjust matters between the two classes. We teach the well-to-do and intelligent that the careful consumptive is not a menace, and we try to teach the poverty-stricken consumptive to be careful; then congratulate ourselves on what we hope will be the outcome, while the very circumstances of the case are insuperable obstacles to the production of careful consumptives. How long can society afford to allow the loss of wealth, the destruction of life and happiness consequent on the ravages of tuberculosis to

proceed practically unchecked because of the failure of the means now being used against it? Clearly that part of the community whose financial standing, intelligence and ability mark them as competent for the task must take up the burden at once if society is to be delivered from the scourge of consumption otherwise than by long and slow processes involving the sacrifice of millions of human lives. Society must be aroused to the realization of the fact that the only real solution of the tuberculosis question lies in the provision of State and city hospitals for the segregation of advanced cases in which the poverty of the patients renders them helpless alike to save themselves and to protect the community. There must be hospitals so commodious, so comfortable, so easily accessible to the families and friends of the patients that removal

7. Butcher shop kept by a consumptive, spreading the infection among his customers.

to them will be a blessing rather than a hardship even in the eyes of those prejudiced by ignorance, and possibly by experience as well, against public institutions. When public opinion demands segregation and the community provides the means for it, then, and not till then, will the battle against tuberculosis be won.

Till then we are playing a losing game—worse, we are adding to the losses suffered by the community through the disease, the waste of energy, time and money involved in the futile effort to accomplish through the "educational method" a result that it is hopelessly and forever incompetent to produce.

The charts, photographs and posters shown in the exhibit are

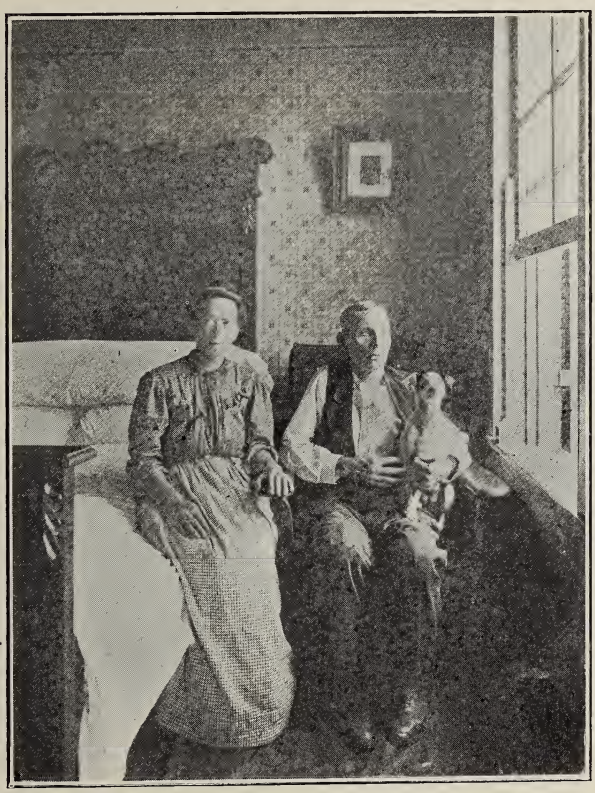
8. In all of the houses marked X laundry work was done, so that infection was carried from them to members of the community who were otherwise fairly well protected by the fact of their being well-to-do people.

9. Room occupied by two women, one a dying consumptive. Would "compulsory segregation" in this instance have been "unnecessary" or "cruel"?

herewith reproduced in the hope that they will serve without further comment to demonstrate fully the facts which lead us to the conclusions stated above.

Poster No. 1.

This exhibit illustrates what our experience has proved to be the most valuable function of the visiting nurse—to discover and bring before the



12. May the careful consumptive be a menace to the community? This patient is an advanced case. He uses every precaution, sputum cups, etc. His wife, however, has contracted turberculosis. She is the breadwinner of the family. When he is well enough for her to leave him, she packs crackers in a biscuit factory. When he is too ill to be left, she does laundry work at home. In spite of care the man has served as a source of infection to his wife. His wife is spreading the disease through the products of her work. Which is the better assurance of protection—the care taken by the individual patient, or the segregation of that patient in a hospital?

public the conditions which hinder the effectiveness of her work and prove the necessity of its being supplemented by more radical measures.

When these measures are adopted the chief function of the nurse will then be to secure their willing acceptance by that portion of the community upon which they must be brought to bear.

Poster No. 2.

Duties of the Tuberculosis Nurse.

To teach patients to follow the doctor's advice.
To teach patients how to take care of themselves.
To teach families prophylaxis and how to avoid infection.
To find new patients, particularly early or suspicious cases.
To get such patients to dispensaries for diagnosis and treatment.
To teach patients the value of hospitals and to be willing to use them.
To register patients with the State Board of Health.
To report houses for fumigation after the death or removal of patients.
To report unsanitary premises.
To help in teaching the public that it must safeguard itself by adequate legislation and the enforcement of laws looking toward its safety.

13. Two advanced cases of consumption. Mother and son (one in picture) live in this one room. Woman does laundry work as a means of livelihood. The clean clothes are hung here to dry and laid on the bed after ironing, until taken home. Patients use sputum cups as regularly and intelligently as they are able. Does this constitute full assurance against likelihood of spreading infection, or would segregation be more likely to secure the safety of the community?

Poster No. 3.

Number of Cases Registered by the Nurse with the State Board of Health.

1905	114	cases.
1906	359	"
1907	641	"
1908 (nine months)	801	"
Total	1915	"

Poster No. 4.

Number of Houses or Parts of Houses Reported for Fumigation During the Last Eighteen Months.

After death	1672 houses.
After removal	672 "

The instruction of the family as to the necessity for fumigation is the important part of this work.

14. Picture of a so-called "cured case." The patient has learned from the nurse and is able to apply the measures required to prolong her life. She can never recover her economic efficiency, but must always be supported by charitable aid. Prevention, not cure, is the only solution of the problem for the poor.

Poster No. 5.

Sources from which 3016 *Cases Have Been Received During the Past Four Years.*

Phipps Dispensary (Johns Hopkins Hospital)	40%
Other dispensaries	10%
Found by nurses	20%
Charitable agencies	14%
Physicians	9%
Miscellaneous	7%
Total	100%

Poster No. 6.

Tuberculosis Is Primarily and Essentially a Disease of the Poor.

Patients visited by nurses	3000
On the poverty line	1500
Below the poverty line and forced to receive charitable aid	1500

POSTER NO. 7.

List of Occupations Undertaken in the Homes of Poor Consumptives in which They Earn a Scanty Livelihood and Spread the Disease in the Community.

Out of 915 cases of consumption 35 per cent. are carrying on some form of home industry.

1. Carried on by members of patient's family (patient sometimes assisting):

	No. of families in which each occupation occurred.
Laundry work (ordinary)	229
Laundry work (for restaurant)	2
Sweatshop work (washable goods)	9
Sweatshop work (non-washable goods)	10

2. Carried on by patient himself:

Dressmaking	11
Shoemaking	7
Baby farm	1
Baby tending	3
Grocery store	14
Cook shop	4
Soup-making	1
Oyster saloon	2
Candy packing	1
Barber	3
Boarding-house	3
Lodging-house	8
Mission	1
Gambling den	1
Florist	1
Intelligence office	2
Bar or saloon keeper	8
Hebrew teacher	1
Butcher shop	2
Tobacco shop	1
Dry goods shop	2

"HOW THE PUBLIC CAN HELP THE MEDICAL PROFESSION TO FIGHT DISEASE."

By G. Milton Linthicum, A.B., A.M., M.D.,

Professor of Physiology and Proctology, Baltimore Medical College; Vice-President Medical and Chirurgical Faculty.

ONE OF A SERIES OF PUBLIC LECTURES UNDER THE AUSPICES OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND.

[*Continued from March Number.*]

The crusade against tuberculosis is one that should always be before us, one that should in every way be encouraged and helped, financially, educationally and otherwise. Each one can give a little of his time in teaching the truths of its prevention. Koch, when he gave to us his great discovery of the true cause of tuberculosis, gave the knowledge of combating it. Destroy the sputum and tuberculosis will disappear. Let everyone in a tactful way instruct those who have this disease to be careful; indeed, I say

more—let each and every one, no matter whether tuberculosis is present or not, spit nowhere except where the rays of sunshine or fire will destroy the germ of whatever character may be present.

In our midst we have a careless, shiftless race, especially prone to this disease. Maryland has no place, except a few beds at Bayview, for its colored tubercular patients. I am inclined to think one contributing factor of tuberculosis in the colored is their habit of sleeping with the head covered, as I have frequently seen, especially in cold weather. They draw the blankets over their heads and breathe the vitiated air over and over again. I believe one source of education which might be easily availed of is the feature of securing the aid of the numerous kinetograph shows and have them throw on the screen some prophylactic truth. This, I believe, could be obtained by a popular request upon the part of the public. Let us use every way to teach the means of prevention, but the dealing with the unteachable, careless and ignorant consumptive is a burning question of the present stage in the campaign against the elimination of tuberculosis.

Below a certain stage of intelligence, the ability to make this class comprehend the significance of the value of care of the sputa is apparently impossible, as is shown by the recent work of the visiting nurses in our city. Miss LaMotte, in charge of this work, cites the following data: She visited 1160 patients of this class and tried to instruct them in matters of prevention. She found only nine capable of understanding necessary rules of preventing infection of others; 143 were fairly careful, but not sufficiently so; 719 were careless, and 289 were absolutely indifferent. In these cases nothing more could be done.

Does not this condition warrant you, the people of this Commonwealth, in insisting upon measures for you and your children's protection? Why should you legislate against the rapidly fatal or the recovery of such infection as scarlet fever and its kin and allow this insidious and long-continued malady to exist in your midst without a reasonable amount of protection? I feel that the time of sentiment has passed when the ignorant and careless should infect their neighbors. The time is ripe when such legislation as New York has adopted, that the obstinate, ignorant patient who cannot or will not accept instruction, and remains a danger to his environment, be removed to a suitable hospital where he is harmless and at the same time given an opportunity of prolonging and rendering the remainder of his life more comfortable. I feel that the removal of a dying man or woman from his family is more than justified by the benefit to the rest of the community.

The enormous waste of life from typhoid fever is in nearly every case due to the drinking of the excrement of a previous patient, and this patient excreting typhoid bacilli for his neighbors' drinking water in the stream below, and thereby contracting typhoid. Disgusting to a degree of nausea, but true. Infected milk and vegetables are usually the result of impure, infected water. Every year 28,000 people die of this disease, every year are 200,000 people

ill of this absolutely preventable disease for 60 days, yet it goes on all over this country at a rate three times greater than in England and Wales. Here, in our sick, we have our proportionate number of cases; last year 199 deaths in about 2000 cases. We were on the verge of gaining a new water supply—how much better I cannot say—but our Water Board has made a *faux pas*, and we, I fear, must wait a long time ere this much-needed necessity will be an accomplished fact.

The necessity of screening the homes against flies and mosquitoes is apparent, not only as a matter of comfort, but as a matter of disease prevention. The fly is a carrier of typhoid, tuberculosis and other diseases, as the mosquito is that of malaria, yellow fever, etc.

The fleas of rats have been found to be carriers of the plague which recently presented itself on the Pacific Coast. Doubtless as investigations are made many domestic pets will be seen to be responsible for the spread of various infectious diseases.

The education of your children is one of the most important things in relation to the prevention of disease, for, as it has been very aptly said, the time to train a child is 100 years before its birth. That, with us, is, to be sure, impossible, yet we can at least begin to inculcate our ideas of disease, its causes and prevention in the early school period; and, furthermore, we are responsible for many diseases of childhood, as well as the weakened and susceptible constitution in later life. So that in the education of a child two features should be considered. The first I have already mentioned, the knowledge which should be imparted to the child, and, secondly, certain rules of health and protection with which we should surround and care for the children's welfare.

There is much room for improvement in many lines of education in this grand country of ours, which sprang from infancy to adult life at a single bound, whose very birth into national freedom was stimulated by the gigantic and overwhelming convulsion of the French Revolution. Our very religion was borrowed as such from a foreign source. We today are clothed in ideas that do not set well, which have not been patterned or shaped according to our exact requirements.

We are not sure of our experiment in the endeavor to keep up with the pace set by our rapid development in early life—endeavoring to train the mind with great pressure until we dwarf the legs and lungs, hoping thereby to make colossal brains. Only in recent years a foreign-born method of education was introduced into our system, not with its simplicity and healthful idea, but remodeled and transformed to suit the rapid age in which we live, so that now, instead of the German children's garden, we have in its place the American hothouse, resulting in our very little babes, with their milk teeth hardly yet complete, huddled like little birds in illy ventilated and badly lighted rooms until their cheeks lose their roses and their childish natures are blighted.

The required age of entering school at six years is entirely too

early; indeed, twelve has been placed by some, and eight is sufficiently young before a child should be entered into school life.

The first years of childhood should be devoted to nature, with its fields of flowers and woodlands, with all their beauty and sunshine and pure air, for these are the most important years for bodily development as well as brain growth. The brain doubles itself the first year, increases 10 per cent. the second year and a little more than this the third year, and in the fourth year the growth amounts to almost as much as it will the balance of life; nearly finished growing at six, with almost entire completion at eight. Between eight and twenty a slight gradual increase of weight takes place, and a decadence and shrinkage at fifty-five, this period, doubtless, being deferred until later by some brilliant and unusual individual.

Should a plant be expected to bear fruit until it has blossomed? Then why should the brain be taxed until its development has reached the receptive period? During the growth of the brain greater quantities of rich, pure blood is needed, and unless it is supplied we must expect dwarfed and stunted brains and a body of correspondingly low and inadequate vitality.

During the early life the open playground and the excursions to the field or on the water, under the supervision of one who is familiar with children, should take the place of the so-called kindergarten. The various diseases of childhood are oftentimes due to a lack of knowledge of their character and their cause to improper surroundings.

Certain investigations made in the schools of Copenhagen found that of over 3000 on entrance to school 18 per cent. were sickly, which in two years after entrance had increased to 30 per cent., where it remained for several years, and at the period just before puberty had reached a total of 40 per cent.

It was found that of children who had studied more than the normal amount 7 per cent. were more sickly than those who had studied the usual time. Other investigations would show a like result, and the frequency of throat and chronic lung trouble and the disturbances of digestion are all suggestive of more care being exercised in the welfare of the children; and while, perhaps, the building inspector has found many of the schoolhouses unsafe and inadequate as to fire, doubtless if the question of ventilation and light and sunshine were looked into more carefully it would be found that in but rare instances are schools constructed for the child's welfare. This is a matter which should demand a more careful consideration, not only the question of a proper time and manner of instruction, but also of a proper place.

It is found that tubercular deposits tend to occur in various tissues when the excessive nutritive power which is required for growth has become exhausted. It has been shown that about 14 per cent. of the persons at the age of 15 years have tubercular deposits; at the age of 20 years, 24 per cent., and so on, gradually increasing until the age of 30 years is reached, when 40 per cent.

is the record. Thus it is shown that tubercles destroy most at the beginning and at the end of the developed mental age.

These few reflections upon early childhood show the tendency of children to disease in general and call your attention to the well-recognized truth that overstimulation of the mental functions lowers mental vitality and increases the liability to all diseases, and a lowered vitality is a fertilized, prepared and ready soil for the germs of disease.

The importance of a strong constitution is readily seen, because upon it depends the power of resistance against the invading attack of infection. Children should be taught the advantages of sleeping with open windows; the value of good, nutritious food; stress should be laid upon the importance of bodily cleanliness; some form of gymnastics which would cause the lungs to dilate and expand should be adopted and performed at the opening and closing of the school session.

The schoolroom and furniture should be constructed so as to furnish but little lodging place for dust; the room should never be swept with pupils in it, but should be swept at the close of the day, and preferably swept with the floor covered with moist sawdust, and this accumulation burned.

Children should be taught the effect of alcoholics. It is well recognized that it is one of the most potent destroyers of health as well as happiness. This is not only a social evil, but also a medical question in which the people are all interested. It is a well-known medical truth that the use of alcohol reduces the resistance to disease and degenerates the nervous system. This is well shown in such a disease as pneumonia, as about 24 per cent. of the non-alcoholic die, as compared with 50 per cent. of the alcoholic subjects.

About 50 per cent. of the cases of idiocy were found to be children of one or both parents addicted to alcohol. In statistics collected relative to 70 cases of idiocy in Switzerland it was found that half were generated during the 14 weeks of Grape Harvesting Festival and the other half in the remaining 38 weeks of the year. Certainly this is very strong evidence of the effect of even acute drinking of wines. The truths of alcohol as to its effects must be the true means of combating its enormous consumption.

There is also one feature of moral education and its influence upon the developed mental life and moral prophylaxis of early adult life that appeals most strongly to me. I refer to the indecency which is constantly being displayed upon the stage. Scenes are depicted which are hardly fit to be seen outside of the bathroom or a French ballet's dressing chamber. There has in the past been given great latitude to the stage and novel to bring out some moral question by contrast. It has been attempted thus to associate such conditions with true art. Today it seems, however, that the indecency displayed is the attracting and drawing feature in some of the recent theatrical productions. The regulation of these matters cannot be determined upon by the police department, as

I do not feel that their constant association with crime, into which their calling naturally leads, would tend to make them especially good censors. The only way to prohibit this condition is for the decent-thinking people to remain away and shame the indecent to a better action.

The aid you can give in matters concerning social and moral hygiene is inestimable. The study of the sexual function should be of a serious and frank character. Girls during the period of puberty have a wrong view of life. They are, as a rule, of a more sensitive, emotional, nervous organism; they dream dreams and read sentimental and ardent books. The tendency of the average teacher is to regard the two sexes as alike. No regard is paid to that most important change in a girl's life—the establishment of her menstruation. It should be the duty of the parent and teacher to definitely instruct girls in these functions. I am sure that many a girl has been greatly alarmed at the establishment of a perfectly normal and physiological function. No girl should be allowed to wear corsets until this function is well established. Parents should know and teachers should know the physiology of the sexual organs. A definite and specific line of teaching by the teacher would add dignity and solemnity to such instruction, and where this cannot be done by the regular teacher, whom I believe to be the right one, then for girls a woman physician should instruct them in all that relates to the natural laws. Upon the establishment of the great function at the adolescent period of life their future stamina and resistance depends.

I believe that boys at the age of 15 should be taught sexual hygiene, and demonstration given on the subject, which would modify morbid curiosity and give a proper significance to this phase of their life. The utter ignorance of youth upon sexual matters is stupendous, and a proper directing of thought would prevent untold misery even unto the many succeeding generations.

The subject of heredity, the striving for an ideal in human attributes, should be the aim sought by parents to inculcate in their sons and daughters. Health should be the watchword. Far better would it be for you and yours were parents to devote their thought to encouraging marriage between healthy adults and discouraging it in those physically unfit.

Woman, in my opinion, should have three important duties in life to perform—first, to marry if fit, and to marry a man fit; second, to have children, and, third, to secure a suitable partner for her children. I believe in parents being matchmakers. There will, of course, be about 5 per cent. who remain single for one reason or another. God bless them! I don't know what we would do for teachers nor how we would fill many of the places so well filled by the unmarried woman. The bachelor is a misfit.

Better by far to endow your children with health than wealth, as upon this will depend the future of the race. I do not believe an inferior people or race can be lifted up by intermarriage; I do

not believe that you can make a chain stronger than its weakest link. The law of heredity shows that racial characteristics are inherited; statistics show that mulattoes of the third and fourth generation are weaker physically and mentally. It should be your duty to understand and to teach to yours the necessity of a pure race of people.

The commingling of white and black families in the same street, at times in the same house, is a social and racial evil; the mixed school is a menace to your children; a social equality is a menace to white society; miscegenation is a social and medical crime against all the laws of purity of blood and a striving after a better and physically vigorous people. All comparisons of anatomy, physiognomy and racial habits indicate that the negro is an inferior race and that the white race is the highest development of evolution. Any intermarriage is a retrogressive step and an offense to God and man.

In conclusion, the point I have endeavored to make in my rather disjointed remarks I can better illustrate by referring to a remarkable story written more than a hundred years since:

"The tale of the village life in a Swiss settlement, of peasants who got drunk and beat their wives, of dirty children who stole potatoes, and only on gala days had the cream left in their milk. The village preacher became duller and prosier, the doctor more quackish, the schoolmaster more slothful. The magistrate, who also kept the village inn, was getting everyone in his debt and using family secrets for his wretched ends.

"There was the liar, hypocrite, the fool, the sot, and everyone and everything was becoming more and more wretched; crime and intrigue was daily increasing.

"There was one, however—Gertrude, the mason's wife—who was thrifty, neat and clean, who taught her children cleanliness, courtesy, maxims, hymns and prayers with such devotion that the neighbors begged that their children might be permitted to attend. An old nobleman visited her home school and found his vocation in starting a like school. The preacher awakened to a realization of his level and preached with more force and vigor. The spirit of home life became aroused; a gathering weekly of the citizens took place for a study of their betterment. The beerhouse ceased to be the center of interest.

"A royal commission was sent to study the Bonal, which had become the thriftiest village in the realm, and reported that they had found here the true principle of reform and prosperity—in education, with Gertrude's school at the root of all.

"For Bonal is the world. All its degradations and diseases are but the natural offspring of ignorance."

We must combat disease with healthy minds, strong, vigorous bodies, which will resist the invasion of disease germs, and we can do this only by *education*.

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D., Baltimore, Md.

THE DIAGNOSIS AND TREATMENT OF EXOPHTHALMIC GOITRE.

The effects of hyper- and hypothyroidism on general metabolism are so marked that all lesions of the thyroid are of great interest. This fact was demonstrated by the number of papers on the subject at the 1907 meeting of the American Medical Association.

Barker's study of the symptoms and diagnosis of exophthalmic goitre shows the great importance of the thyroid in general metabolism and the tremendous influence of hyperthyroidism on all the secretions and excretions of the body. This article (*Journal of the American Medical Association,* October, 1907, p. 1235) is the basis for most of the conclusions given below. In the *Journal of the Alumni Association of the College of Physicians and Surgeons,* April, 1906, I gave a résumé of this subject up to that date.

The cardinal symptoms of the disease, exophthalmic goitre, are four in number, namely:

Struma, or goitre—a swelling of the thyroid, usually symmetrical, often of slight degree, but always vascular.

Tachycardia—a rapid pulse-rate associated with irritability of the heart. The thyreotoxic heart should be distinguished from the laboring heart attempting to overcome mechanical obstruction to the circulation or respiration brought about by a goitre extending into the chest or obstructing the veins by pressure.

Tremor—a fine involuntary trembling of the hands.

Exophthalmos—protruding, prominent eyes.

This tetrad of symptoms is most important, and when all are present the diagnosis is made with ease and certainty. In well-developed cases, however, any one of them may be absent, and in early cases all of them may be indistinct or uncertain. It is here that the accessory symptoms become valuable, and while there are many such described, the student must not allow their number and occasional bizareness to distract his attention from the cardinal tetrad.

Probably the most inconstant of the four is the exophthalmos, and yet there are 11 of the "fancy-eye signs" described, the presence or absence of which may help in the diagnosis of a doubtful case. These eye signs are so constantly given by proper names that we are obliged to carry on this enumeration.

I. (v. Graefe.) The upper lid does not follow the eyeball in looking downward.

II. (Dalrymple, v. Stellwag.) The upper lid is retracted in straightforward vision, so that the sclera becomes visible above the cornea.

III. (v. Stellwag.) Infrequent and incomplete involuntary winking.
IV. (Moebius.) Inability to hold the eyes in convergence.
V. (Gifford.) Difficulty in everting the upper lid.
VI. (Jellinek and Rosen.) Pigmentation of the upper lids.
VII. (Joffroy.) The forehead does not wrinkle on looking up.
VIII. Epiphora.
IX. Tremor of the eyeballs.
X. (A. Kocher.) Sensation of pressure behind the eyes.
XI. Abnormal dryness of the eyes.

Landström (*Journal of the American Medical Association,* February, 1909, p. 476) has studied the muscle of Müller in relation to exophthalmic goitre. This is a cylindrical plain muscle, running from the septum orbitale to the equator of the bulbus occuli, by means of which the eyeball is suspended anteriorly in the orbit. Landström shows that a spastic condition of this muscle will cause all of the first five of the eye signs given above. McCallum and Cornell (*Medical News,* October 15, 1904) described this plain muscle and the effect of stimulation of the cervical sympathetic on it and in the production of exophthalmos. We have, therefore, experimental proof of the clinical fact that exophthalmos often persists after all other symptoms of the disease have disappeared, and is only relieved by section of the cervical sympathetic.

Other symptoms of the disease may be manifested by disturbance of any of the functions of the body. There is often slight edema of the eyelids, legs or hands. Dyspnea is generally of cardiac origin, but there is a peculiar air hunger, however, with fruity breath, present in marked cases that indicates acidosis as an urgent complication. The lessened expansion of the chest, described by Bryson, is inconstant, and is probably due to weakened muscles.

General metabolic disturbance of some kind is always present, and is shown by loss of weight, by alteration of the skin and its appendages, although these may be also explained by changes in the nervous system. Mellaturia is rather frequent, and Billings has shown that the administration of dried suprarenal is of value therapeutically in this condition. The nature of the pigmentation of the skin is not definitely known, but suggests a relation between the adrenals and the thyroid.

The Blood Count.—There seems to be a constant relative increase of small mononuclear lymphocytes in the disease. In four cases recently observed the lymphocytes were about 36 per cent. of the white cells present.

Treatment.—Surgical operation is the most certain method of cure. There are many points to be decided, however, before doing the operation. The surgeon must be prepared to determine the amount of thyroid to be removed and the proper stage of the disease at which to operate.

Tetany Parathyroidpriva.—(Pool, *Annals of Surgery,* October, 1907.) The proof that this distressing condition follows removal of the parathyroids or even the obstruction of their circulation has

laid still another duty on the surgeon. These small granules are not constant in their relation to the thyroid and its vessels, and unless especial care is taken may be removed with the goitre.

The posterior-capsule operation (Mayo, *Surgery, Gynecology and Obstetrics,* July, 1907) is intended to avoid injury to these granules, as well as to the recurrent laryngeal nerve, by shelling the thyroid out of its posterior capsule. It is not enough to leave the parathyroids, but their blood supply must not be impaired in the ligation of the superior and inferior thyroid vessels (Halsted, *Annals of Surgery,* October, 1907). To avoid this the inferior vessels are clamped with a mass of thyroid tissue inside the capsule and the hemorrhage controlled by catgut transfixion sutures.

Auto- and Isotransplantation in Dogs of the Parathyroid Granules.—(W. S. Halsted, *Journal of Experimental Medicine,* Vol. XI, No. 1, 1909, p. 175.) This experimental work shows that the parathyroids will live and functionate if transplanted into thyroid tissue. On this account the tissue removed at operation for exophthalmic goitre must be carefully examined at once for parathyroid granules, and if one be discovered it should be transplanted immediately into the thyroid tissue remaining in the neck. This transplantation should be performed also whenever the ligation of the thyroid arteries interferes with the circulation of the parathyroids.

REVIEW IN GYNECOLOGY AND OBSTETRICS.

By A. Samuels, M.D.

ECTOPIC PREGNANCY—ITS ETIOLOGY, SYMPTOMS AND TREATMENT.

Different observers, though they disagree in their views in regard to the remote causative factors of ectopic pregnancy, are almost a unit in believing it to be due to some mechanical interference in the descent of the ovum through the tube.

C. D. Williams (*Surgery, Gynecology and Obstetrics,* Vol. VII, No. 9, 1909), from an exhaustive study of the subject and from analysis of a series of cases, found mucous-lined false channels, or diverticula, produced by an inflammatory reaction in the tubes in from 95 to 98 per cent. of all the cases. Dührssen considers tubal disease, particularly that due to a gonorrheal infection, as the most frequent cause of extrauterine pregnancy. Shauta has advanced the theory that gonorrheal processes involving the tubal mucosa frequently lead to false channels, or diverticula. While gonorrhea may be the chief predisposing cause, all inflammatory affections, including those of a tuberculous nature, play their part in producing conditions which favor an obstruction and the consequent retention and development of the ovum within the Fallopian tube.

Opitz (*Zeit. für. Geb. u. Gyn.,* 1903, Bd. XLVIII), on making

serial sections of the tubes in 23 cases of ectopic pregnancy, found that these false channels, or passages, were present in every instance. He was also able to demonstrate the presence of diverticula from the main lumen, resulting from the union of the longitudinal folds of the tubal mucosa, due to inflammatory affections. Landau and J. Whitridge Williams have also referred to these false passages, or diverticula.

Flexions are seldom so acute that they will not straighten out under peristaltic action sufficiently to allow the ovum to pass. In the flexions of the tubes examined histologically by Williams no perceptible atrophy of their wall nor stenosis of their lumen could be demonstrated at the site of the flexion.

There is very little evidence to substantiate the theory of the corroding action of the ovum when implanted in the tissues of the Fallopian tube as an etiological factor in the development of an ectopic pregnancy or to account for the rupture through the wall of the tube. If it is possible for the ovum so to push itself through the wall of the Fallopian tube, why should it not corrode its way through the uterine wall? Williams takes the view that where the ovum is lodged and fertilized is simply a question of obstruction in its descent. Whether the ovum remains lodged in its own Graafian follicle, in the Fallopian tube, or in the uterine cavity, lays the foundation for an ovarian, tubal or a normal uterine pregnancy.

The inflammatory reaction is bilateral in the majority of cases. This raises the question whether or not both tubes should be removed at the time of operation. Macroscopically, the tube on the opposite side may not show any signs of an existing inflammation, but when histologically examined, false passages, or diverticula, may be found. Tubes that are not hopelessly occluded or densely adherent may be saved for the purpose of conception in the uterus. This procedure is to be favored, but it carries with it the great danger of another ectopic gestation. The statistics of cases of tubal pregnancy occurring in the opposite Fallopian tube a few months to a year or more after an operation for the removal of the first warrants us in advising the patient against the retention of an apparently sound or slightly diseased tube.

After a review of the literature upon the etiology of ectopic gestation and a study of the pathological condition associated with it, both from a clinical and histological standpoint, the weight of evidence is that the formation of these diverticula, or false passages, resulting from an inflammatory reaction is the most constant anatomical lesion found in the Fallopian tube capable of impeding the descent of the ovum and producing a tubal pregnancy.

Symptoms.—Ashton classifies the symptoms of tubal pregnancy into those which are present before primary rupture or abortion; at the time of rupture or abortion.

Before Primary Rupture or Abortion.—In the majority of cases the tubal gestation terminates by rupture within the first three months. Hence, from a practical standpoint, this period is of

more interest to the general practitioner than the latter half of pregnancy, which is only of importance in those very rare cases of ectopic gestation that continue to develop and may in exceptional cases reach full term.

In the majority of cases the symptoms of a normal gestation are present and the patient may believe herself pregnant, but in some instances these symptoms may be entirely absent, and the first indication of her condition may be a sudden and severe internal hemorrhage from the ruptured tube. Morning sickness may be present and a sensation of fullness of the breast. A history may be obtained of a pre-existing sterility for a number of years. Menstruation has a wide variance; in some cases it is interrupted, while in others only a spotting occurs. Robert T. Frank (*American Journal of Obstetrics and Diseases of Women and Children,* Vol. LIX, No. 2, 1909), in a series of 80 cases, found sterility in from 10 to 12 per cent. of his cases, and that spotting occurred in 72.5 per cent. When the menses are uninterrupted a careful investigation of the patient's history will often elicit the fact that the flow is lessened in amount and shortened in duration.

The decidua vera is frequently thrown off by the uterus in the form of small pieces of shreds or as a complete cast. The expulsion of the decidua may be accompanied by metrorrhagia, and in some cases the hemorrhage may be so severe that the patient believes she has miscarried. Pain may or may not be present. If present, it is generally of a collicky nature, located in the hypogastrium or in one of the inguinal regions. If rupture or abortion does not take place early, colostrum may appear in the breasts.

The symptoms, as a rule, do not impress the patient as sufficiently important to require the advice of a physician, and hence a diagnosis of tubal pregnancy is rarely, if ever, made before rupture or abortion has taken place. These symptoms at the time of rupture or abortion are so characteristic and well known that I will not give them in detail, but merely mention them in a general way. When studied with the history of the case they should settle the question of diagnosis.

SUMMARY OF SYMPTOMS.

Before primary rupture or abortion:

1. The objective symptoms:
   - (*a*) Symptoms of early pregnancy, such as morning sickness, sensation of fullness of the breasts and amenorrhea.
   - (*b*) Expulsion of decidua membrane or shreds.
   - (*c*) Hypogastric and inguinal pains.
   - (*d*) History of a previous sterility.
2. The objective symptoms:
   - (*a*) Symptoms of early pregnancy, such as changes in the external organs, the vagina and the breasts, softening of the cervix and enlargement of the uterus.

(*b*) Presence of a distended tube.
(*c*) Contractions of the wall of the gestation sac.
(*d*) Microscopic findings in the membrane or shreds thrown off by the uterus.

At the time of rupture or abortion:

1. The subjective symptoms:
   (*a*) A careful study of the previous history.
   (*b*) Sudden, acute, agonizing, excruciating pains over the lower abdomen and in the affected side of the pelvis, which are followed by shock and collapse, with symptoms of internal hemorrhage.
2. The objective symptoms:
   (*a*) The presence of an enlarged tube.
   (*b*) Hypertrophy of the uterus and softening of the cervix.
   (*c*) The presence of free blood in the pelvis or a broad ligament hematoma.

Treatment.—The treatment of ectopic gestation is operative under all conditions, and our sole object must always be the safety of the mother, as the child has no claim whatever to consideration even in those very rare cases in which gestation continues until viability is reached.

The opponents of immediate operation base their claims partly upon animal experimentation (Robb), partly upon a series of cases in which so-called "hibernation" treatment (Robb, Stillwagen, Simpson) proved successful. However, they must record fatal cases in which operation was performed during shock.

A summary of F. Shauta's ("Beiträge zur Kasuistik, Prognose und Therapie der Extrauterineschwangerschaft. Eine klinische Studie," Prag, 1891) statistics, which cover 241 unoperated cases, proves beyond a doubt that death from hemorrhage without operation does occur in many. Of the 241 cases not operated upon, 68.8 per cent. died. In 131 cases the gestation terminated before the first half of pregnancy had been reached, with a mortality of 78 per cent. Veit says that even when hematocele has been reached, from 25 to 28 per cent. of unoperated cases die.

To delay operation after rupture or abortion with the hope that a live child may be produced is a practice that cannot be too strongly condemned.

(1) Because a live child is rarely or ever produced, and, if born alive, it is generally so badly nourished that death takes place within the first few days.

(2) An operation while the fetus is alive is attended with increased dangers, as it is almost impossible to remove the placenta from its widespread attachment over the pelvic organs and intestines without causing an uncontrollable hemorrhage.

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Under the Direction of the Secretary of the State Board of Health

WATER SUPPLY AND SEWAGE DISPOSAL IN BALTIMORE COUNTY.

THE problems of sanitation in Baltimore county are quite closely connected with problems of county government. In order to maintain a sanitary condition in towns and cities it has been found necessary to make provisions for the disposal of sewage, for a pure and abundant water supply and for the abatement of nuisances. In Baltimore county, however, conditions make it difficult to meet promptly and effectively these fundamental problems. The population of Baltimore county is about 100,000 persons, including a number of towns of considerable size, where the density of population is quite equal to that of parts of Baltimore city. In all of this large area there is not a single incorporated town. On this account, if a street is to be paved, sewer mains to be laid, or water supply to be installed, the cost must be assessed upon a community the greater part rural, and under conditions where a considerable part, if not the majority, of the population will derive no benefits from the improvement.

It is to the credit of the County Commissioners that they meet these conditions, on the whole, well when their difficult situation is taken into account. Since the local conditions cited are largely or wholly problems of sanitation, sanitation has suffered most through the lack of incorporation in thickly settled communities.

Problems of Sewage Disposal.—In the past Baltimore county has had to depend upon the individual earth pit and cesspool method for sewage disposal, and this method still prevails in practically all of Baltimore county, with the exception of some of the suburban developments. In communities in close proximity to the larger streams, the facility with which sewage disposal can be carried on through the agency of large flowing streams has caused a number of these communities to make use of the streams for this purpose.

Among the principal streams receiving larger or smaller quantities of sewage from various parts of Baltimore county are Jones'

Falls, Gwynn's Run, the Gunpowder River, the Patapsco River and Herring Run. Of these streams, Jones' Falls, the Gunpowder River, the Patapsco River and Herring Run are sources of water supply. Gwynn's Run is a stream which in the past 20 years has not been used for any other purposes than the disposal of sewage and manufacturing wastes. For these purposes it has been adequate up to the past two years. During the past two years there has been an extensive development of suburban property, especially in the section northwest of Baltimore city. As a result of this an amount of sewage has been thrown into Gwynn's Run greater than it can handle without giving rise to a serious nuisance, particularly in the dry summer season. It is probable that Baltimore city will in the near future make provision for the disposal of the sewage in Northwest Baltimore, and thus temporarily, at least, relieve the condition of the stream by diverting so much of the sewage as it receives from Baltimore city. The remaining sewage from Baltimore county will undoubtedly be too large, however, for Gwynn's Run to accommodate. The continued use of Gwynn's Run is necessary for the development of the suburban property northwest of Baltimore, and as the stream is not used for drinking or domestic purposes, and, indeed, has no other use than the disposal of sewage and manufacturing waste, no objection can be interposed on the part of the health authorities for such use, provided no serious nuisance arises. The problem can be met without much difficulty by the purification of sewage and manufacturing wastes previous to their discharge into the run. Since the stream is and always will remain a public sewer, a high degree of purification is unnecessary, and it is only necessary to purify the sewage to such degree that a non-putrescible effluent will be discharged into the stream. This is a problem both simple and comparatively inexpensive. It could be met satisfactorily by the use of septic tanks and sedimentation basins and contact beds of comparatively small area.

The other streams mentioned receive both sewage and manufacturing waste, and if the discharge of that sewage is to be permitted at all the degree of purification should be very high and the effluents should be sterilized before permitting their discharge into the stream.

Sewage Purification Plants.—The object of a sewage purification plant is to conduct the operations of nature on an intensive plan and to insure the purification shall be constant and uniform. The purification of sewage, whether natural or artificial, consists, from a chemical standpoint, in the reduction of highly organized compounds and products of decomposition to simple gases and soluble materials. The biological processes are more important from a health standpoint. The purification of sewage is due to the action of certain saprophytic bacteria, especially to that class known as nitrifying bacteria, whose function is to reduce organic matter first to simple nitrites and finally to ammonia. During this process the medium of bacterial growth is exhausted and, what is even more important, the bacteria of disease are destroyed.

The bacteria concerned in the reduction and purification of sewage are both anaeorbic and aeorbic. The former class, of course, grow only when air is excluded. All processes of sewage purification consist in their main elements of one or more septic tanks, in which the sewage is held for at least 24 hours, after which it is discharged over the purification beds. In the system devised by the late Colonel Waring the filtration beds consist of parallel trenches, in which terra-cotta pipes are laid on a layer of gravel. These pipes are laid disjointed and sewage is allowed to trickle through the joints over the gravel. The average trench is about 15 inches deep and contains about six inches of gravel, and the terra-cotta pipe usually runs from four to six inches in diameter. The Waring system is generally used in private disposal plants. There are some three or four public or semi-public disposal plants in Baltimore county. One of these is located in West Arlington, one at Roland Park, one at Bayview Asylum and one at the Sheppard and Enoch Pratt Hospital. Plants are also in process of construction at Govanstown and on the Harford road. These two latter plants are on the Herring Run watershed.

In the country districts the cesspool and earth pit are still the prevalent methods employed. The present Baltimore county law tends to gradually eliminate these forms of sewage disposal. The construction of cesspools or other devices for sewage disposal within 300 yards of the source of any private or public water supply is forbidden, excepting upon a permit of the district or county health officer. The use of cesspools is permitted under certain restrictions, particularly in those neighborhoods where the ground water is already hopelessly polluted. The only method of sewage disposal not subject to regulation is that by watertight receptacles.

Problems of Water Supply.—Owing to the lack of incorporation of the suburban towns, public water supplies have been furnished in all cases either through private enterprise or that of a corporation. The largest corporation furnishing water is the Baltimore County Water & Electric Co. This company maintains about 25 miles of water mains in its western system. The water for the supply of this extensive area has in the past been derived from Rockburn Branch. Eventually the whole of this area will be supplied from the Patapsco River. This area is supplied by filtered water derived from a plant at Avalon. Both the so-called mechanical and slow sand filtration methods are employed. The essential filtering medium in both the gravity and mechanical filtration systems is a film on a surface of the sand, known as the *schmutzdeckel.* In slow sand filtration the *schmutzdeckel* is formed by the growth of saprophytic bacteria, and consists largely of bacteria and their products.

In mechanical filtration the *schmutzdeckel* is formed by the action of some coagulant upon the coagulable materials in the raw water. The typical slow sand filtration plant is a reservoir basin, in the bottom of which are underdrains, usually of iron or terra-cotta pipe. Upon the underdrains are laid, first, coarse gravel;

second, fine gravel; third, coarse sand, and finally fine sand. Water is allowed to flow over the surface of the fine sand to the depth of about three feet. In two or three weeks a satisfactory *schmutzdeckel* is formed and water can be passed through the filtration bed. After a period of several months has elapsed the *schmutzdeckel* becomes so thick that water will only pass through slowly and with difficulty. It is then necessary to scrape off about six inches of the upper layer of the sand and to renew it with clean sand.

In mechanical filtration the *schmutzdeckel* is formed each time that water is allowed to flow on the filtration bed, and a new *schmutzdeckel* is formed before the filtering is resumed. After the filtration tank has emptied itself, a mixture of air and water is forced upward through the sand and the *schmutzdeckel* washed away, together with the thin layer of the sand. Both the mechanical and gravity method will give good results under constant expert supervision, and the mechanical method has the advantage of rapidity and concentration, as a very much smaller area is required than with the gravity method. Both give low bacterial counts, but it must be remembered that gravity filtration is not only *mechanical,* but *biological.* In the gravity method the disease-producing bacteria are destroyed in their passage through a layer of actively growing saprophytes, and the few bacteria which occur in the effluent are only harmless saprophytes. The Avalon system supplies Relay, St. Denis, Catonsville, Arlington, Dickeyville, Tuxedo, Embla Park, Govanstown and Hamilton. Highlandtown and Canton are supplied with raw surface water from Herring Run. This stream passes through a very thickly settled neighborhood where the opportunities for contamination are especially abundant. During past years, as the neighborhood became more thickly settled, there was a constant increase in the contamination, until the water became most grossly polluted. During the past year the State Board of Health has been actively engaged in abating the worst of these pollutions, and over 120 restraining orders have been issued.

The Baltimore County Water & Electric Co. also supplies Towson and Lutherville. This is a separate artesian-well system. The water is of a high degree of purity and of excellent quality. Independent corporations supply Mount Washington and Roland Park. The use of artesian water is also quite common for private supplies in Baltimore county. With few exceptions, driven wells exceeding 200 feet in depth furnish a pure and potable water, and this must be considered the ideal supply for individuals and small communities. An artesian supply possesses the advantage over filtered water in that it does not require expert supervision, and thus eliminates the human element as well as the liability of breakdown. In rural districts dependence must still be placed upon shallow-dug wells and springs. Both of these sources are liable to frequent contamination, especially as primitive methods of sewage disposal prevail in the rural districts.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

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C. HAMPSON JONES, M.D., Asst. Commissioner.
THOS. L. RICHARDSON, M.D., Asst. Commissioner, Quarantine.
J. W. M. KIGER, Secretary.

Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

THE ROLE OF BACILLUS 'CARRIERS" IN THE SPREAD OF DIPHTHERIA.

As IN a recent communication from the Subdepartment of Health the part played by bacillus "carriers" in the spread of typhoid fever was discussed, so in this their relation to the dissemination of diphtheria will be considered.

Acknowledging that fomites and milk are sources of infection; granting that the rat, the house pet, or cat, and Cimex lectularius, or bed-bug, may distribute Klebs-Löffler bacilli, we seem to have been tardy in our recognition of the fact that perfectly healthy people may harbor virulent diphtheria bacilli, and yet normal throats not only may but actually do contain them, and that not infrequently, as the literature upon the subject will readily show.

Park[1] states that he isolated virulent diphtheria bacilli from 1 per cent. of normal throats in New York. The disease, however, was prevalent at the time and most of the cases lived in infected houses. Later, in his "Pathogenic Bacteria and Protozoa," 1905, p. 197, he asserts that he recovered diphtheria-like bacilli in 9.7 per cent. of a total of 330 throats cultured, but in only eight (2.4 per cent.) were they pathogenic for animals.

In a report of the Massachusetts Associated Boards of Health, July, 1902, the proportion of "carriers" ranges from 3 per cent. when no exposure to infection had occurred to 8-50 per cent. when the reverse was the case.

E. Burville Holmes[2] of Philadelphia, in a study of 80 or 90 cultures from physicians and nurses in charge of diphtheria wards, obtained only two positive results. Both were from nurses who had recently arrived, one of whom developed clinical diphtheria the day following the bacteriological examination. His experience is, as he states, unique.

During an epidemic at the Connecticut Hospital for the Insane

[1]Report on Bact. Investigations and Diag. of Diph. from May 4, 1893, to May 4, 1894, Scient. Bul. No. 1, Health Depart., City of New York.
[2]*N. Y. Med. Jour.*, 1908, Vol. lxxxvii, p. 534.

Dr. Jessie Weston Fisher[3] found micro-organisms resembling B. diphtheriae in the throats of 2.08 per cent. of the healthy inmates and attendants. The pathogenicity of but few strains could be determined, as the examination of so many cultures consumed the time of the entire available force. Of four, however, from infected "contacts," two proved fatal to guinea pigs, the others being also slightly toxic; another from an inmate without pseudo-membrane, but with enlarged tonsils, likewise caused death. To attempt to draw definite conclusions from so few experiments would be unjustifiable, but, in view of Park's experience, to assume that fully 1 per cent. of the healthy patients and employes were potential sources of infection is to err, if at all, on the side of conservatism.

In a recent compilation of the results of other observers, Graham-Smith[4] shows that diphtheria bacilli were harbored by 66 per cent. of the members of the patient's family, the proportion varying from 10 per cent. where quarantine regulations were enforced to 50-100 per cent. where they were not.

In a recent article M. Solis-Cohen[5] published an interesting analysis of the results of a four-years' investigation of the subject of diphtheria "carriers." During nine epidemics in several homes for children 13 per cent. of healthy inmates harbored the organism. The examination of cultures from 11 private dwellings elicited 55 per cent. of "contacts."

Further citations from the literature as to the incidence of "carriers" would be both unprofitable and tedious, but a few statistics compiled by this department may be considered pertinent to the subject.

In 1898, during an epidemic, the Subdepartment of Health began an investigation of the schools, searching for foci of infection. Within the next two years 5000 cultures were examined, 4.2 per cent. proving positive. In seven years 5693 cultures were taken, 4.6 per cent. being positive. The percentages for the individual years varied from a minimum of 3.8 per cent. to a maximum of 7.1 per cent., the curves corresponding almost invariably to those of the diphtheria morbidity. Although this loses any striking import on account of the small number of throats cultured after the first two years, at the same time it is suggestive as to the significance of "carriers" in the propagation of this disease.

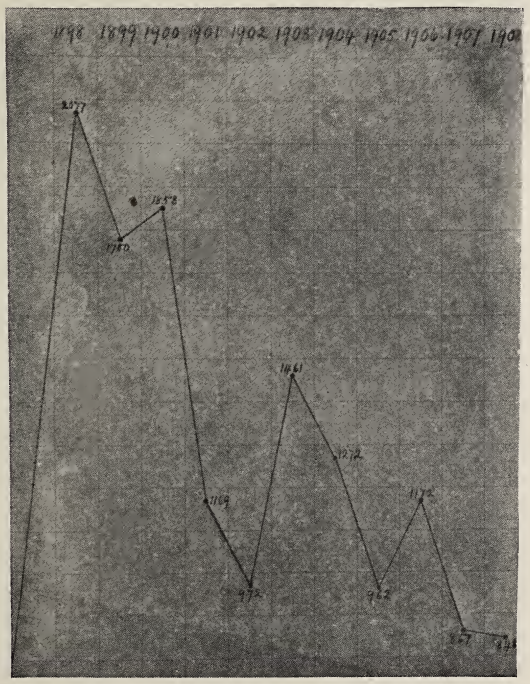
In the 10 years ending in 1907 the throat inspectors have taken 31,695 cultures, of which 5.1 per cent. were positive. This is approximately the percentage of infected "contacts," for comparatively few cultures were from convalescent patients.

Viewing the matter from another standpoint, that of results obtained from partial or complete control of "contacts," we find a marked reduction of the diphtheria morbidity since this was first attempted by the department. In 1898 the Subdepartment of Health determined to require negative cultures from all occupants of an infected house before fumigating the premises. From that time the number of reported cases has decreased from 2077 in 1898

[3]*Jour. A. M. A.*, 1909, Vol. li, p. 434.
[4]Bact. of Diph., edited by G. F. Nuttall and T. S. Graham-Smith, 1908.
[5]*Jour. A. M. A.*, 1909, Vol. li, p. 112.

to 848 in 1908. This is strikingly depicted in the accompanying chart, where, with the exception of a few fluctuations, a continuous decline is shown. It cannot, of course, be deduced from this that the partial control of diphtheria "carriers" alone has caused this reduction, but inasmuch as all other prophylactic measures employed were in use prior to 1898, it cannot be denied that the part this has played has been of great moment.

In Baltimore an epidemic which continued until careful culturing of school children brought to light a number of "carriers" ended as soon as these foci of infection were eliminated.



Solis-Cohen has had a somewhat similar experience in Philadelphia. In one institution, in spite of all precautions, diphtheria continued unabated until "contacts" were discovered and quarantined. In another, isolation of such cases resulted in the early cessation of an epidemic, while a later outbreak continued for months when this measure was not adopted.

Knowing that every case of diphtheria must have come in contact with a "carrier," animate or inanimate; acknowledging that the source of the infection often cannot be traced; giving due consideration to the results of various investigations, the sanitarian is undoubtedly justified in the assumption that the rôle of the infected "contact" in the spread of diphtheria is of the utmost importance. F. W. Hachtel, *First Assistant Bacteriologist.*

Maryland Lunacy Commission.

Arthur P. Herring, M.D., Secretary.
Henry M. Hurd, M.D. Hugh H. Young, M.D. John D. Blake, M.D.
R. Markley Black, M.D. Attorney-General Isaac Lobe Straus, ex-officio.

This Department is Under the Direction of the Secretary of the Commission

"IT is our duty as medical men to agitate, and agitate, and agitate until State care is secured for all the dependent insane of Maryland." —*Henry M. Hurd, M.D.*

The result of the past six months' agitation has shown what constant and persistent effort will produce. The entire medical profession of the State, through the various county medical societies, has endorsed resolutions favoring the State Care of all dependent insane.

This means a forceful influence to bring to bear upon the next Legislature. The County Commissioners in every county except two have endorsed State Care.

The lay press throughout the State has taken the same stand.

The outlook for complete State Care is very encouraging. The heartiest co-operation is being accorded the Lunacy Commission from practically every institution in the State where the insane are treated, so that the plans of the Commission are gradually becoming systematized and the supervision of the insane made more complete.

Society Reports.

BALTIMORE CITY MEDICAL SOCIETY.

MEETING HELD FRIDAY, FEBRUARY 7, 1908.

I. *Septic Heart Pause*—Dr. A. K. Bond.

In the case under discussion the pause of the heart for from 15 to 20 seconds pointed to blood sepsis. The rhythm, however, was normal. The many remedies tried availed nothing in the amelioration of the symptoms. It is probable that this case can be placed in the group of which Stokes-Adams disease is a member. The patient was a large, robust man, with, however, an old murmur of aortic stenosis. There was no history of venereal disease, alcohol, coffee or tobacco. In a previous attack the patient had asthenia from overstrain, with 24 to 30 pulse-beats and then a pause of 10 seconds. The apex-beat was normally placed, but there was a systolic murmur along the sternum and over the carotids. Several of these attacks had come on after severe muscular exertion. The present attack came on the morning after a heavy meal. The heart showed pauses, and during this time the patient was unconscious. Strophanthus, digitalin, Mulford's No. 2 cardiac tablet and other heart tonics did no good. On examination the patient's intellect was clear; the pulse at the wrist 34 beats in 30 seconds, followed by a 30-second pause. The patient had a sort of Cheyne-Stokes breathing, but just when a convulsion seemed inevitable the blood column would come again, and the patient would act naturally and ask for water. An enema brought away a liquid, brown, foul-smelling stool. The patient was purged after trying the efficacy of morphia to obtain quiet. A No. 1 S. & D. (1½ pills) vegetable cathartic was given, followed later by two croton-oil pills. Improvement soon set in, due, no doubt, to the purge. At 9 A. M. the patient was seen, pulseless and with no respiration, and the extremities were cold. Soon the pulse got better, and later further purging was obtained. Beef extract, which the patient had been getting, was cut off, as it was thought perhaps the toxins responsible came from this. The patient steadily recovered and is today practically well. This case belongs doubtless to the Stokes-Adams class, but the ventricle did not beat, and when it did beat the beat was regular.

Continuing, Dr. Bond mentioned that bradycardia occurred in pregnancy, during jaundice, and there may be also a normal slow pulse. The rhythm in Stokes-Adams disease is slow—about 40 per minute and even slower. At periods the pulse may almost stop. This is also seen from nervous cases and in syphilitics. Epileptiform attacks may occur, with throbbing in the veins. The conditions in Stokes-Adams disease can be reproduced by pressure on the auriculo-ventricular bundle. The case cited showed a ventricular pause of 20 seconds, therefore beating only two-thirds of its time in the regular cycle.

II. *Significance of Pain in Pelvic Disease*—Dr. Emil Novak.

Pain is important, as it brings the patient to the physician and gives the physician his clinical suggestions. Pain should enter into both diagnosis and prognosis. Diagnosis should not resolve itself into a question whether

to operate or not. The uterus is not so important as tubes and ovaries in relation to pain, except, perhaps, in the case of foreign bodies, such as clots in the uterine cavity, which bring on collicky pains, virtually miniature labor pains. The uterus has, in addition to its sympathetic nervous supply, a somatic supply from the third and fourth sacral nerves. Endometritis, as a rule, does not cause pain, but brings a sense of weight. Carcinoma of the uterus causes no pain until it extends beyond the uterus. If there is pain, it is usually neuralgic. Pain is important in diseases of the tube and ovary. Pain in the iliac fossae is not pathognomonic of tube and ovary trouble. Peritoneal pain is due to disease of the peritoneum covering the affected organ, probably a perisalpingitis or perioophoritis. Lenander first pointed out the difference in sensibility of the visceral and parietal peritoneum. If the visceral peritoneum is painless, where does the pain come from, as, for instance, in appendicitis? The statement is made that there is no such thing as visceral pain. Head says the pain of the viscera is a referred pain felt through the spinal nerves distributed to the region over the affected viscus. The stomach wall is insensitive, and the pain in gastric ulcer is felt in the abdominal wall over that viscus. Why is pain referred? If a nerve is insensitive to pain, a pain stimulus will be felt away from that point. This probably is the explanation. This condition is called allocheiria by the neurologists. Pain, therefore, is appreciated by the somatic nerve in the abdominal wall over the affected viscus. If tubal and ovarian pain is referred, can we not, then, differentiate pain of these two organs? The region of the ovary is supplied from the tenth dorsal segment, while the region of the tube is from the eleventh and twelfth dorsal and first lumbar segment. Probably the assistance of this fact to gynecology is limited, as the trouble in one ovary may be felt on the opposite side of the pelvis. This is often the case in bilateral organs. Pain is more often felt in the left side of the pelvis. If the pain were localized for each organ, the diagnosis would be easier. This is, unfortunately, not the case.

Anemia, cachexia, high fever and menstruation have an effect on pain in the pelvis as the nervous resistance is weakened. Neurasthenia is as truly a complication of pelvic disorders as peritonitis. Pelvic disease may come from nervous impairment, though we may have pelvic disease without any very serious pain or nervous symptoms. True surgery comprises the removal of hopelessly diseased tissue and the conservation of normal tissue. The custom of removing ovaries for pain in that region is now happily obsolete. To know the significance of pelvic pain the gynecologist must know the patient's make-up as well as the results of examination. In conclusion, the salient points are:

1. The examination is necessary, but we must consider the distribution of the pelvic pain.

2. The surgeon must know that he is dealing with disease and what that disease is before operating.

3. Pelvic pain has the same causes as elsewhere and is governed by the same laws.

4. Neglect of pelvic pain may lead to neurasthenia and pains elsewhere.

5. Neurasthenia may be a factor in the persistence of pain after operation.

6. The pelvic symptoms of hysteria are the same as in other parts of the body.
7. The ovaries should not be removed for pain alone.
8. Fibro-cystic ovaries are compatible with perfect health.
9. Both the lesion and the patient must be studied faithfully.

DISCUSSION.

Dr. Watson: The speaker had appendicitis with pain at the ensiform cartilage. This was probably reflex. Later there appeared an area of tenderness in the right iliac fossa, with a point of specially great pain. The speaker thinks he touched the appendix. Also, the passage of gas through the ilio-cecal valve could be appreciated. What drug relieves the pain of dysmenorrhea? Viburnum?

Dr. Novak: The speaker thinks Dr. Watson's pain was not in the appendix. The pain was in the parietal peritoneum, probably enhanced by hyperemia, and the painful point was the point of maximum intensity corresponding to the distribution of the appendiceal segment. The pain of intestinal colic is due to the drag on the mesentery.

Dysmenorrhea may depend on many things—as, for instance, the nervous system. In that case, treat the nerves. Viburnum acts as a uterine sedative in dysmenorrhea.

III. *Exhibition of Tonsils and Adenoids*—Dr. W. T. Watson.

The speaker has operated on 168 cases of tonsils and adenoids in six years, mostly in children. The majority have been done under ether, as these operations without anesthesia are brutal and incomplete. The child is laid on his shoulder and hip on a table before a window. The child is, so to speak, "kept on edge." By turning the mouth down good drainage is obtained. The speaker showed a great many of the enlarged tonsils and adenoids removed by him, and described his method of operating, laying great emphasis on the complete removal of the tissue.

GONORRHEA IN WOMEN. By Palmer Findley, M.D., Professor of Gynecology in the University of Nebraska, Omaha. Price $2. St. Louis: C. V. Mosby Medical Book & Publishing Co. 1908.

Finding nowhere in the English or American literature the subject of gonorrhea presented in its entirety, Dr. Findley seeks in the work before us to fill that need, compiling the best in our possession and presenting the views of the best workers in the field. To aid those who desire to make further research an extensive bibliography is appended.

There is nothing especially new in the book, only a careful review of each subject, with judicious sifting of the useful from the useless. The author's work is in every way excellent. The publishers' work is also attractive beyond the ordinary. In places more accurate proof-reading would be an improvement. On page 99, for instance, we find "aspirating" and "infectuous," and on the preceding page "the painful heal of gonorrhea" calls loudly for a new "heel," to say nothing of the "chronic hydrasthosis" in the sentence just before it. The Mosby Company is putting out such excellent books that we are sure this friendly criticism will be welcomed, coming from a Southern source.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D., *Editor*

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NATHAN WINSLOW, M.D., *Managing Editor.*

BALTIMORE, APRIL, 1909

THE DIAGNOSIS OF TUBERCULOSIS.

KNOWING that an early diagnosis of tuberculosis would materially reduce the mortality, modern investigators have ever been seeking positive methods of its early diagnostication. Koch's tuberculin seemed to have been what was sought. This test, however, was not void of danger to the subject inoculated, so fell into disuse. The next advance was made by Wolff-Eissner and Calmette in their ophthalmic reaction and Pirquet in his cutaneous vaccination, but these tests have been found not to be entirely satisfactory, and are not looked upon with as much favor as formerly. Now Rosenberger publishes his latest researches in the early and positive diagnosis of tuberculosis in the *American Journal of the Medical Sciences* for February. In this article he claims to have recovered tubercular organism in all forms of tubercular infection. If other investigators, in following Rosenberger's methods, are as successful as he, the early diagnosis of tuberculosis will be an assured fact. According to his article, Dr. Rosenberger claims without exception to have recovered the tubercle organism in every case diagnosed clinically as tuberculosis, and even to have found them in unsuspected cases. His method may be described as follows: Draw 5 cubic centimeters from the arm and introduce it into a test tube containing an equal amount of 2 per cent. solution of sodium citrate in normal salt solution. Set in a cool place 24 hours to sedimentate. Smears are then made from the sediment, dried and stained in the usual manner with carbol-fuchsin and acid methylene blue. Rosenberger does not claim to be the first isolater of tubercular organisms from the blood, but to have

discovered a method which, in his hands, has always been positive. We await confirmation of Rosenberger's work with much interest.

ANTITYPHOID VACCINATION IN ENLISTED MEN, UNITED STATES ARMY.

Much interest has been aroused in the medical profession by the order of the War Department, recently promulgated, authorizing officers of the medical corps, whenever they deem it necessary, to call for volunteers from the enlisted men to submit to immunizing inoculations of the antityphoid serum, so successfully used by the British military authorities in the South African campaign. The immunity thus produced is only temporary, lasting for three or four months. No serious results have followed inoculation. It is the expectation of our military authorities that serum therapy will prevent a repetition of such typhoid epidemics as prevailed during the Spanish-American War. From the experiences of the British in South Africa these epidemics can undoubtedly be controlled if, during the prevalence of typhoid fever, serum therapy be practiced as religiously as vaccination for smallpox, and the order should be compulsory rather than volitional.

PRELIMINARY MEDICAL EDUCATION.

To produce the best results the best material to work with must be had. Realizing that candidates for admission to the medical profession should possess the liberal culture and general education implied by a collegiate degree, the medical department of Western Reserve University, with the commencement of the academic year 1910-1911—*i. e.*, in October, 1910—will require of candidates for admission to its course the possession of a collegiate degree or its equivalent from an approved college or scientific school. Each academic year witnesses a gradual advancement in the requirements of the preliminary education for admission to medical schools. Heretofore notoriously low standards have prevailed in the admission of students to courses leading to the degree of doctor of medicine. Every physician who has the best interests of the profession at heart should welcome any advance in the preliminary education of our students, as the better the material the better the finished product.

Medical Items.

Dr. Hugh H. Young has returned from a vacation in Jamaica.

Dr. Claude Van Bibber, who was injured by a fall on the ice, is at St. Agnes' Sanitarium.

Dr. Henry Barton Jacobs has closed his home in Baltimore and will be absent several weeks in Europe.

The new operating-room which is to be built at St. Joseph's Hospital will be dedicated to Dr. Isaac Trimble.

Dr. Frank Anderson will relieve Dr. George M. Pickrell as Superintendent of the Naval Hospital, Annapolis.

Dr. Alexander D. McConachie of Baltimore has been appointed eye and ear surgeon at the Union Hospital, Elkton.

The Supervisors of City Charities have approved plans for new buildings at Bayview, one of which will be constructed this year at an estimated cost of $100,000. This will relieve the overcrowded conditions now existing.

We are glad to report that the efforts of the Association for the Prevention and Relief of Tuberculosis and the various societies which are co-operating with it in the endeavor to obtain help from the municipal government in its fight against tuberculosis have been successful in so far that the Board of Estimates has appropriated a sufficient amount for the maintenance of two nurses. These nurses will work under the direction of the Health Department.

Misses Ellen N. LaMotte and Grace Brumbaugh have been appointed by Health Commissioner Bosley. They will begin their duties April 1.

It was shown that a number of cities now look after their tuberculosis cases, and it is not felt that Baltimore can afford to be behindhand in this respect. It is hoped that next year the city will be able to employ 15 nurses and take entire care of these cases. The Instructive Visiting Nurse Association reports that it has on its list over 1500 cases of this disease, and but four nurses, and can, therefore, pay each patient but one visit a month. Among those actively interested in this movement are Drs. Henry Barton Jacobs, James Bosley, William H. Welch, Messrs. H. Wirt Steele, Douglas M. Wylie and Miss Ellen N. LaMotte.

The second annual report of the managers of the Maryland Tuberculosis Sanitarium shows that strides have been made in the past year.

Since the filing of the first report the sanitarium, as originally planned, has been nearly completed, the equipment partly installed and a number of patients have been under treatment since last September.

The additional appropriation made by the General Assembly of 1908 enabled the board to complete the administration building, dining hall and infirmary; to erect eight pavilions for patients, each containing 20 beds; to build a power-house for heating, lighting and laundry purposes, and also a cottage for the farm superintendent and his assistants. In addition, the officers and assistants' quarters have been furnished, the dining hall and cottage equipments completed, and four patients' pavilions and infirmary have been put in commission, sufficient for 100 patients.

The report is submitted to the Governor by the following managers: President, Senator John Walter Smith; vice-president, H. Warren Buckler, M.D.; treasurer, Mr. Samuel K. Dennis; board of managers, Charles M. Ellis, M.D., Henry Barton Jacobs, M.D., Guy Steele, M.D., and Charles H. Conley, M.D.

DEATHS.

Asa S. Linthicum, University of Maryland, '52, at his home in Jessups, Md.

Edmund Cantwell Gibbs, M.D., University of Maryland, '84, at his home in Baltimore.

Joseph Rutter Owens, M.D., University of Maryland, '59, at his home in Hyattsville, Md.

Thomas C. Walton, M.D., New York University Medical College, '02, at Annapolis, Md.

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SYMPOSIUM.

[NOTE.—Contributions to this Symposium are solicited from all sources on subjects relating to the good of the Faculty and to the profession of Maryland in general. The editors are not responsible for opinions expressed.—MANAGING EDITOR.]

EXCERPTING.

Excerpting is a fine art, and withal, with the busy physician, a much neglected one. Breathes there one of us with soul so dead that he has not exclaimed, "How I wish I had kept that article on this or that subject!"

Now, if it had been kept, with most of us, the case would not have been improved, for when needed its whereabouts would have been little less of a mystery, and the search for it have occasioned little less trouble and loss of time than the present casting about to ascertain the exact subject of the article, the journal in which it was published and the date of its appearance.

Many of us would contribute more liberally to the journals or to the proceedings of the societies had we but a convenient way of fixing and comparing our ideas so that we could incubate them and turn them out, nascent, at the proper time.

We read an article; it suggests experiences similar or diametrically dissimilar, as the case may be, and we think that some time we will rub up and give others the benefit of, mayhaps, unique, or, at any rate, valuable experiences and observations upon the subject. When the time comes, however, the little stimulus that would have been sufficient to incite us to action is lacking, lost or mislaid, and the task is postponed until a more convenient season. Since the best of us are lazy, we find time to do those things which we like to do, and perfectly justifiable excuses for neglecting the others. Like electricity, we move most quickly along the path of least resistance—and we dread writing.

An examination of the annals of our medical societies proves this beyond question. The number of members who contribute papers, compared with the total membership, is small—painfully small. Then, formerly, in the days of independent medical journalism, there were our favorite publications, ready to receive our modest communications—clinical experiences and records of unusual cases—passed upon by the editor, and not by the Supreme Court in full bench. Consolidation and centralization seem to see merit only in original research and articles which are as Greek as Æschylus to the general reader, and so our one-time contributor must go far afield to find an audience.

However, this is not what I started out to say.

Excerpts, well classified, easily get-at-able, are of value not merely as a stimulus to writing, but also as an aid to practice—thereby meaning all phases of the medical art.

If we could but glance over the gist of current literature at will, the theory, discovery and suggestion pertaining to a case in hand, as embodied in medical articles that have come our way in recent years, what a blessing it would be in time of need, what a sustaining power in doubt and dread!

Memory is sometimes false, fickle always, and having read suffices not.

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less as a United States Senator and as hard to get anything good out of, and indexing is wearisome and cannot be done by proxy. So it is usually done by indefinitely postponing.

Therefore, I have adopted the following simple method: I read my journals, marking each item that is of interest to me, and noting on the cover that it has been read and is to be kept. Then, when time ponders, I carefully cut out these selections and file them in the ordinary box letter files, under the appropriate letter. If an article when cut out is in more than one piece, I simply pin the pieces together.

Two files, one for surgical and one for medical notes, costing 25 cents each, will hold two or three years' clippings, and your old journals are ready for the ashbox—not the least of the blessings.

Now, to consult your clippings is easy. Take out all that pertains to the subject—kidney, liver, what you will—spread them out and review them. Not at all an arduous task, and one the value of which is known only to him who practices it. I have followed this method for years and have found nothing better or simpler.

Perhaps I err in thinking this procedure is not broadly known or practiced, but inquiry has convinced me that its value is not universally appreciated, and the help it has given me justifies me, I think, in directing attention to it.

PEARCE KINTZING, M.D.,
Professor of Diseases of the Heart and Physical Diagnosis, Maryland Medical College, Physician to the Franklin Square Hospital, etc.
1321 North Charles St., Baltimore, March 11, 1908.

Book Reviews.

NERVOUS AND MENTAL DISEASES. By Archibald Church, M.D., and Frederick Peterson, M.D. Pp. 945. With 341 illustrations. Philadelphia: W. B. Saunders Company. Cloth. Price $5.

In this thoroughly revised sixth edition we have a useful book for general practitioner and student. It is full enough for general purposes, yet not so voluminous as to make it irksome for reference or study. The addition of a chapter on Psychasthenia, the revision of the chapters on Cerebral localization and the thorough revision of the second section on Mental diseases make this a modern reference book for diagnosis and treatment of mental and nervous diseases.

SURGICAL MEMOIRS AND OTHER ESSAYS. By James G. Munford, M.D. Price $2.50 net. Published by Moffat, Yard & Co.

In this little volume of Surgical Memoirs Dr. Munford has in an entertaining and interesting manner given the life history, ambitions, ideals, struggles and achievements of the epochmakers in the surgical field. It is essentially a series of short biographical sketches, starting with Hippocrates and coming on down to the latter part of the last century. As a whole, the medical profession is woefully ignorant of its past history, and it has prac-

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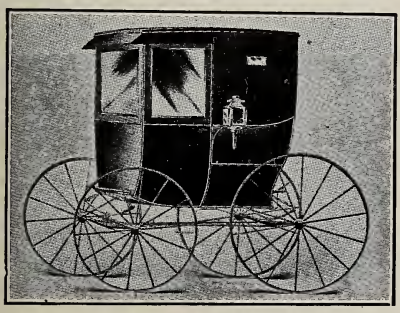

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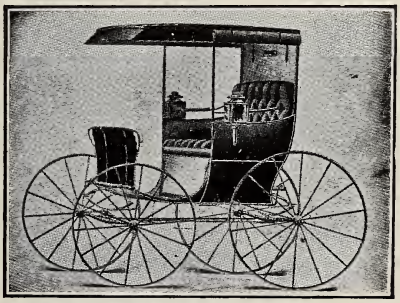

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tically no acquaintance with the past masters of surgery. This book offers in a few terse words an excellent opportunity for a more intimate knowledge of a few of these celebrities.

Electrical Treatment. By Wilfred Harris, M.D., Physician to Department for Nervous Diseases, St. Mary's Hospital; Physician to Out-Patients, Hospital for Epilepsy and Paralysis. Illustrated. Price $2.25 net. Chicago: W. T. Keener & Co. 1908.

The book has been written with the main purpose of presenting a comprehensive view of the various forms of electrical treatment as practiced today, giving particular attention to the work that may be done in medical practice with a good faradic and galvanic battery. It is a very attractive small octavo volume of 380 pages, replete with information concerning methods and apparatus; the therapeutics of the faradic current; of the galvanic current; of electric baths; of the sinusoidal current; of electric-light baths and X-rays, and, finally, of static electricity and high-frequency currents.

The Efficient Life. By Luther H. Gulick, M.D. New York: Doubleday, Page & Co. Price $1.20 net.

The official position of the author, as the director of physical training in the New York public schools, would of itself secure him an audience. The little book is very good reading. Its short chapters are full of pithy advice on such themes as these:

How to keep up speed and efficiency in the race of life.
How to make your life worth while.
The effect of states of mind on the body.
Good carriage as a promoter of health and self-respect.
Danger signals.
The relation of defective eyesight to poor health.

All considerations of a spiritual nature being excluded, the book before us is of the highest type. The most complete appeal for perfection in manhood must always, however, recognize the spirit that is in man.

Diseases of the Digestive Canal. By Paul Cohnheim. Philadelphia: J. B. Lippincott & Co. $4 net.

This book is written in a simple and attractive style. It is absolutely modern and abreast of the most recent advances in alimentary diseases. Diagnosis is the keynote, and great stress is laid on how the earliest possible diagnosis can be made. The treatment is full and practical and is the result of the mature experience of the author.

A Textbook on Uric Acid and Its Congeners. By G. A. Gilbert, M.D., Physician to the Danbury Hospital. Danbury, Conn.: The Danbury Medical Publishing Co.

If any doctor wishes to know all about uric acid, here it is—300 pages of facts about it. Its place in Nature, its history in medicine, its chemical, physical and physiological peculiarities; its relation to nephritis, to infantile diseases, to menstruation; its bearing on conditions of the throat, spine, teeth;

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Diseases of the Nervous System. By H. Campbell Thomson, M.D. (London), F.R.C.P., Physician at the Middlesex Hospital, Dean of the Middlesex Hospital Medical School. With 120 colored plates and figures. Price $2.75. Chicago: W. P. Keener & Co. 1908.

This little book, of 500 pages, is written by a teacher who understands how to grasp the main points of a subject and express them in condensed and forcible language. It is founded on his experiences in the conduct of cliniques at the Hospital for Nervous Diseases, Maida Vale, and at the Middlesex Hospital. While a book of this sort cannot be exclusively relied upon for the minute details of diagnosis and treatment, the physician will find it very desirable for quick reference, and particularly for bringing up to date his knowledge of this steadily progressive branch of the healing art. The cuts are unusually well chosen for the illustration of the text, and the whole book indicates that its author is one of those rare individuals to whom alone the preparation of medical textbooks should be entrusted.

Kirkes' Handbook of Physiology. Revised and Rewritten by Charles Wilson Greene, Ph.D., Professor of Physiology and Pharmacology, University of Missouri. Sixth American Revision; 700 Pages; Eight Volumes, with 507 Illustrations, including many in colors. Wm. Wood & Co., New York. 1907. Price $3.

In this revision of Dr. Kirkes' well-known book the text has been largely rewritten in every part, and many new illustrations of physiological experiments have been introduced, making it for students and physicians a handy textbook.

Its special feature is the page or more of directions for laboratory work appended to each of its chapters, increasing greatly its value both to teachers and to students. The illustrations are very fine and apposite, and the type is neat and comfortable to the eye, a consideration which is unfortunately often forgotten in the modern textbook.

Diseases of the Genito-Urinary Organs and the Kidneys. By Greene & Brooks. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co.

Students, general practitioners and even specialists will find an immense wealth of information in this book. The illustrations, most of which are original, simplify the text materially. The various operative procedures are full and in concise, clear, simple English. Combining as it does the surgical and the medical treatment of the diseases of the genito-urinary tract, adds greatly to its field of usefulness. The authors are to be congratulated

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upon the thoroughness and simplicity with which they have handled their subject, and the reviewer takes great pleasure in recommending the book to the medical profession.

PAMPHLETS RECEIVED.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Vol. XI. Part 3.

RULES FOR DAVIS INFIRMARY. Birmingham, Ala.: Leslie Printing & Publishing Co.

EIGHTH ANNUAL REPORT OF THE NEW YORK STATE HOSPITAL FOR THE CARE OF CRIPPLED AND DEFORMED CHILDREN. J. B. Lyon Company, Albany.

CYTOLYSE ALTO-FREQUENTE DU CANCER. Par M. J. A. Rivière, de Paris. September, 1908. *Annales d'Electrobiologie et de Radiologie.*

TREATMENT OF TYPHOID FEVER PERFORATION. By J. D. S. Davis, M.D., LL.D., Birmingham, Ala. Reprinted from the *American Journal of Obstetrics*, June, 1908.

REVIEW IN SURGERY. By Alexius McGlannan, M.D. Reprinted from MARYLAND MEDICAL JOURNAL, February, 1909.

LA TUBERCULOSE RENALE. By Eugene Saint-Jacques. Imprimerie Le Progrés, Limitèce, 197 Rue Notre Dame Est, Montreal.

THE "SHAW" TREATMENT OF CANCER. By John Shaw, M.D. Published by the Look Out Press, 89 Farringdon street, E. C., London, England.

MENTAL AND NERVOUS DISEASE IN GENERAL PRACTICE. By William B. Noyes, M.D., M.A. Reprinted from *Medical Review of Reviews*, November, 1908.

SAUNDERS' BOOKS: A Descriptive Catalogue of Medical and Surgical Works. Philadelphia, Pa.: W. B. Saunders Company, 925 Walnut street.

Reprints by Leo M. Crafts, B.L., M.D., Minneapolis: "Medical Education," from *Northwestern Lancet;* "A Fifth Case of Family Periodic Paralysis," from *American Journal of the American Sciences;* "The Influence of the Ductless Glands Over Metabolism," from *Journal of the American Medical Association;* "Wear and Care of the Nervous System," from *Journal of Minnesota State Medical Association* and *Northwestern Lancet;* "Incipient Amyotrophic Lateral Sclerosis, with Recovery," from *Journal of the American Medical Association.*

Reprints by Tom A. Williams, M.B., C.M., Edinburgh: "The French Clinics in Neurology and Psychiatry," from *American Medicine;* "The So-Called Gastric Neuroses," read before the thirty-ninth annual meeting of the Medical Society of Virginia; "The Differential Diagnosis of Functional from Organic Palsies—Hemiplegia, Paralsysis, Agitans, Occupation and Habit Cramps and Spasms," from the *Archives of Diagnosis;* "Recent Advances Regarding Hysteria in Relation to Traumatic Neuroses," from *Monthly Cyclopædia and Medical Bulletin.*

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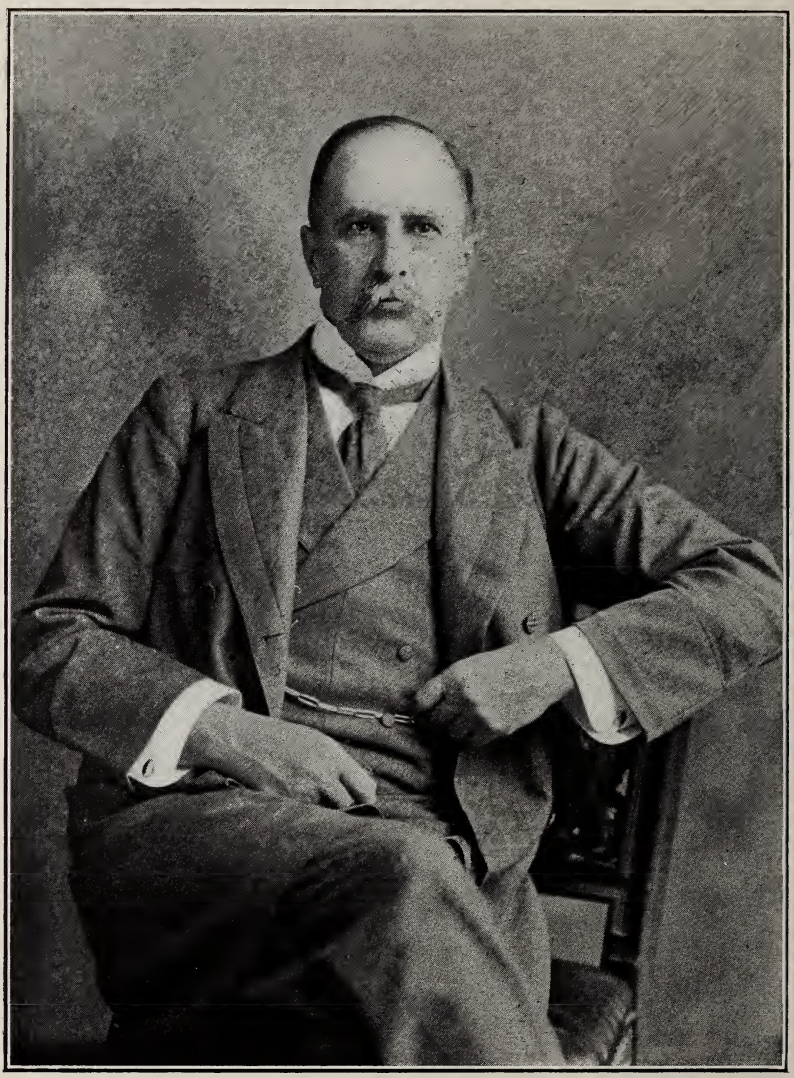

[An hitherto unpublished portrait.]

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MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery

Vol. LII, No. 5 BALTIMORE, MAY, 1909 Whole No. 1092

THE FACULTY AND ITS LIBRARY.

By A. K. Bond, M.D.

THE GOLDEN AGE.

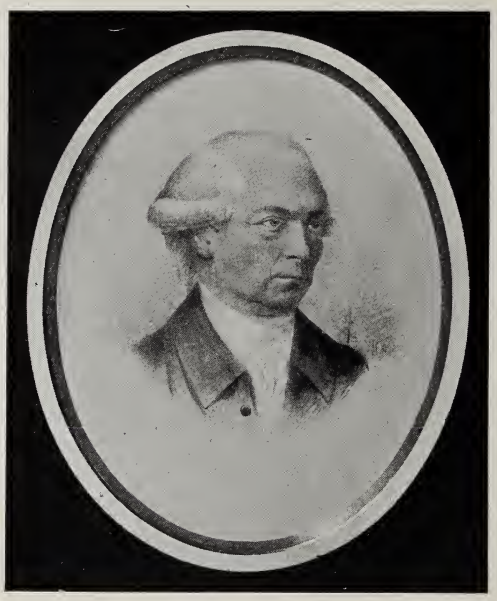
It was the Golden Age of medical practice in Maryland, that year of the "beginnings," 1830. Of the 600 physicians in our State, 100 of them from Baltimore, *all were members of the Medical and Chirurgical Faculty*. The like had never before been seen, nor has it been seen since.

Chartered in 1799 for the double purpose, and with the double duty to the State, of protecting the citizens from quackery and incompetence on the part of medical practitioners and of promoting the medical culture of worthy physicians, and organized under the presidency of Dr. Upton Scott, the Faculty had for 30 years devoted its whole energies toward the former object. Its examining boards for Eastern and for Western Shore had summoned practitioner after practitioner, and demanded that each should present satisfactory evidence of good character, knowledge and skill or be driven from the State by severe legal penalties.

There was no appeal except to the Faculty itself in its biennial (after 1817, annual) sessions. Entrenched behind its ancient charter, irrevocable even by the State, which had conferred it "forever," the Faculty, originally composed of 109 "Founders," with self-perpetuating authority, proceeded quietly with its licensing work and saved its ten-dollar fees, as had been suggested as far back as 1788 by Dr. Elisha J. Hall of Frederick Town, to whose broad mind and ready pen we owe the original plan of our Faculty, for the purchase of medical books as the nucleus of a Faculty library. (Frederick, with its population of more than 9000, should note this.)

In 1830, as I have said, the restrictive work of the Faculty seemed firmly established, and leading members felt that the time had come for the inception of methods for accomplishing the second purpose of the charter. The absence of a central library, common to all, does not imply that the physicians of that day lacked interest in literature. The fine collections of medical books which have been donated to the libraries of the Faculty and hospitals

sufficiently prove the culture and alertness of the donors. Interrupting my writing for a half-hour, I find in my own library works of the masters of medicine of that day, bearing on the fly-leaves the autographs of Thomas E. Bond, Sr., a founder of the University of Maryland, with other still more age-worn volumes bearing the autograph of Solomon Birckhead, my great-grandfather, a quiet city practitioner of wealth and energy, without literary pretensions, who served the Faculty for a time as its treasurer. Some of the volumes referred to are of British origin, by great Edinburgh or London teachers, and printed in Great Britain; others are



[Engraved from tinted photograph in possession of Medical and Chirurgical Faculty.]

UPTON SCOTT, M.D., OF ANNAPOLIS.

1719—1811.

First President of the Medical and Chirurgical Faculty of Maryland. Received his diploma in Glasgow, 1753.

translations of French masters by ambitious young Americans who had been their pupils, for many embryonic physicians sought finishing courses at that time in Paris, the center of progressive clinical research and therapeutics. A few of the volumes, donated some time ago to the Faculty by their "uncultured" descendant, were in Latin, being the works of ancient founders of the medical art and science. It is interesting to note here the state of American literature. There is a "Bichat on Life and Death," printed in Philadelphia in 1809, and another translation published in Boston in 1827, indicating early desire on the part of our younger phy-

sicians to stimulate the minds of the mass of practitioners. Grigg of Philadelphia was at this time publishing a respectable list of medical works, some of French and British origin, but some also embodying original work of our own physicians. He has, for instance, the able treatise on "Therapeutics" by Dr. John Eberle, professor of materia medica and obstetrics in the Jefferson Medical College; the Pharmacopeia of the United States, and a once-famous treatice on "The Mind" by Dr. Benjamin Rush, professor of medicine in the University of Pennsylvania.

The labors of this latter most prolific American pioneer physician are represented by several other volumes—his "Pringle," printed by Fry in 1810; his "Account of Bilious Remitting Yellow Fever," printed by Dobson in Philadelphia, 1794; his "Medical Inquiries," printed by Grigg of Philadelphia in 1815; his "Introductory Lectures," by Fry, in 1811.

Last, but not the least, we find the great work on "Midwifery" by Adjunct Professor William P. Dewees of the University of Pennsylvania, published by Carey & Lea, Philadelphia, 1830. It is a worthy monument to the industry and literary skill of that famous teacher.

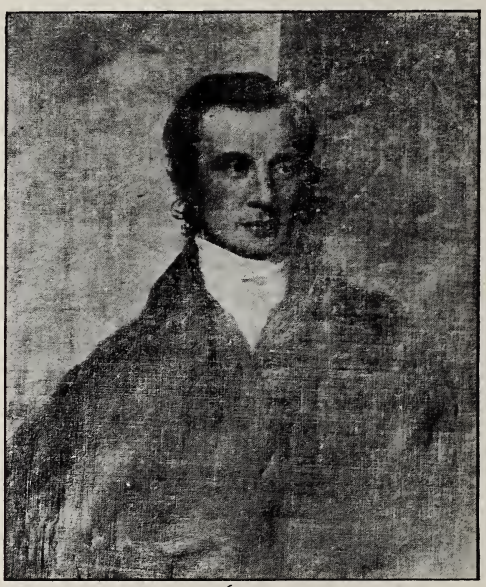
In June, 1830, then, a library committee was appointed by the Faculty and the foundations of that great storehouse of medical literary record was laid, which in its stately maturity we now celebrate. It was agreed that for older books dependence should be placed entirely upon the good-will of Faculty members, who might be expected to follow the generous example of the library founders and donate large numbers of books from their private collections. For new books there was an annual appropriation amounting during the following 10 years to $200 a year from dividends on the invested savings of the Faculty out of license fees. During one of these years as many as 274 books were imported for the Faculty. There is no mention at this time of subscriptions to journals. Those in America were few, and were probably desired for private use. I am informed that it was the custom among progressive physicians to form little clubs for subscription to leading European journals and to pass the journals from member to member.

The library was apparently housed in the office of the member who was appointed librarian, for with the large income mentioned above from dividends and licenses, and with practically no expenses (the examinations being apparently oral), the very respectable sum of $100 could be paid for its care, leaving something still for permanent investment. Dr. Samuel Baker was the leader in the movement for the library, and Dr. Fonerden its first librarian. Next year a fee of $1 was required from members who were accustomed to make use of the library. These were (as always is

the case) but a small percentage of those throughout the State who had the privilege.

LIBRARY TROUBLES.

Golden Ages may be found at the beginnings of many great enterprises. They never last; they cannot last. For survival means adaptability and strength to overcome—qualities which Golden Ages lack. So it was with the prosperity of these good old days. It rested on an irrevocable charter conferred generations before. But irrevocable laws always prove insecure after a while. Constitutions and charters must be flexible or new generations of men will find a way to get around them; failing this,



[Engraved from portrait in possession of the Medical and Chirurgical Faculty.]

SAMUEL BAKER, M.D., OF BALTIMORE.

1785-1835.

First President of the "Medico-Chirurgical Society of Baltimore," which originated one of the first codes of medical ethics in the United States. Dr. Baker instituted the library of the Medical and Chirurgical Faculty. At the annual meeting in 1830, on his motion, the sum of $500 was appropriated for the purchase of books.

will snap them off. Even graveyards get themselves built over after a decent time by live communities. Wise legislators confer no permanently irrevocable privileges nowadays. Few men desire them, because their possession excites hostility in the minds of the general public.

The Faculty's prosperity at this time rested on a false basis. The licensing rights were practically what it has today, but they

did not rest on the consent of the then Legislature, and could not be modified lest they should be thereby revoked.

Moreover, the habit of depending mainly on license fees for general expenses and library support had blinded the members to the need of personal sacrifice by all members in the development of the Faculty's opportunities for service to mankind. Men take deepest interest in things that, year by year, cost them something. Only by fellowship in sacrificing can strong organizations be compacted. In facing the illegal acts of Legislature no *esprit de corps* whatever was manifested.

The trouble began apparently in a contest with the medical school which the Faculty had itself founded, and which forthwith contested the right of the Faculty to examine its graduates. The medical school won its legal contention. As many of the live members of the Faculty were professors in this school, the contest must have lessened seriously the previous *harmony* which had upbuilt the library. It is well known that a good bank account, too, is a necessity for all progressive enterprises, and these lawsuits must have cost the Faculty a great deal of money.

The temporary boom in the Faculty's finances had led it to start a short-lived journal of its own, which began with great *eclat,* but year after year showed a deficit which the Faculty, once so well-to-do, had actually to meet by borrowing money and finally selling investments. A medical journal could not run on deficient capital, edited by volunteers without pay, who were liable to be turned off at any annual meeting by a vote of the Faculty. The journal deficits lessened the money available for new books and so contributed to the all-round apathy of Faculty members.

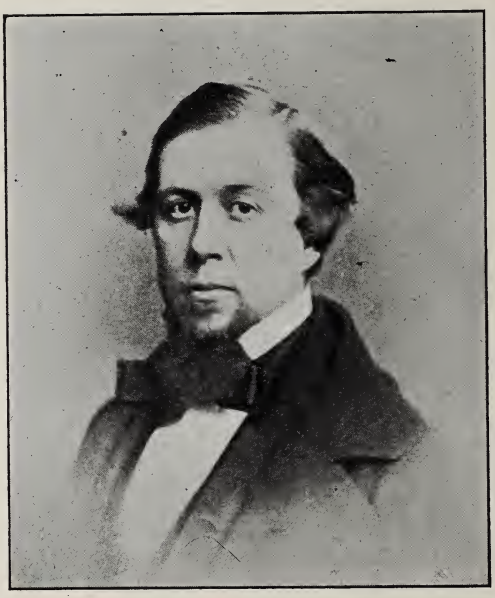
The Thompsonians dealt the final blow. On their urgent petition the Legislature of 1838 gave permission to everybody who wished to practice medicine and collect fees therefor. The Faculty did not even contest the matter. License fees became now fewer. The library received less and less each year and its books became more and more out of date. With its decline the Faculty found itself almost without income, without an aim and without a center of interest.

A NEW ERA.

These reverses were, however, blessings in disguise. There was life and energy in the Faculty, and under new leaders, full of the enthusiasm of the incoming specialties and laboratory investigations, the foundations were laid of a modern State Medical Society. Greatly enheartened by the first meeting of the American Medical Association, held in Baltimore in 1848, the members began to hold weekly conversation meetings, and local city associations were encouraged which strove to raise the standards of medical culture. A catalogue was printed of the library, which was lodged with the Mercantile Library. Life memberships were established. Soon, in 1857, a building, 47 North Calvert street, was purchased,

and amid great joy and high anticipations the library was established in it.

But the Civil War began to threaten, and men's energies were absorbed elsewhere. From 1859 to 1870 the Faculty was dead, except that the devotion of a little band of members (names which should be honored by a memorial upon our walls) preserved through all this dark period the charter right and the library and hall. Ever since the revival in 1870 the library has had a home—at 60 Courtland street, 122 West Fayette street, Saratoga and St. Paul streets, 847 North Eutaw street (called also Hamilton Terrace). Among its many earnest promoters two names stand easily foremost. As at its foundation, so now the library has two great



[Engraved from portrait in possession of Medical and Chirurgical Faculty.]

CHARLES FRICK, M.D., OF BALTIMORE.

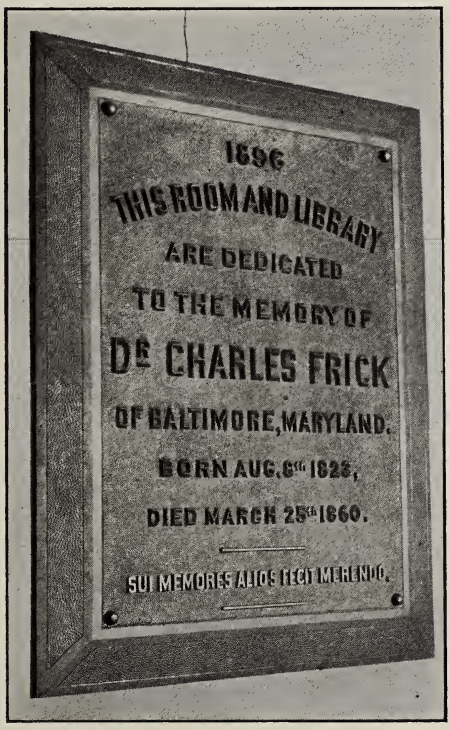
1823—1860.

In his memory his brothers founded the Frick Library and Reading-room at the Hall of the Faculty.

purposes—to gather together and preserve books and records of the past, and to put before its members recent books and journals. No man has loved and labored for this former object as has Dr. E. F. Cordell, and no man has so wisely promoted the latter as Dr. William Osler. A great library like ours must enlist the enthusiastic services of both these types of men, else one or other of its great purposes will be unfulfilled.

The success of the library while on Eutaw street indicated the increasing wealth and culture of our profession. Of this the Book

and Journal Club, promoted, if not suggested, by Dr. Osler, through which many members made voluntary contributions for the purchase of books and journals, was an impressive sign, as was also the donation of a yearly sum of money from four city medical schools. Many proofs, full of promise for the future, were given there of sympathy from the laity. The most striking of these was the establishment in 1896, largely through the influence of Dr. Osler, of the Frick Donations, in memory of the late Dr. Charles Frick. These donations include a handsome sum of money for fitting up our reading-room and annual contributions to



THE FRICK TABLET.

preserve and add to the fine library of Dr. Frick. The six original contributors were Mr. Wm. F. Frick, Mr. Frank Frick, Dr. William Osler, Mrs. H. B. Jacobs, Mr. Reverdy Johnson and Mr. J. Swan Frick.

A smaller but equally appreciated endowment was received from Miss E. Baker in memory of her father, Dr. Samuel Baker.

THE NEW HALL.

In the beginning of this century the Faculty began to feel strong enough to undertake—what it had long needed—a fine new hall, with fireproof protection for its library. Only thus could it expect

to draw to itself the strength of the growing medical profession and of the numerous allied professions devoted to healing and to sanitation; only thus could it expect to gather into its safe keeping generation after generation mementoes and literary treasures of days gone by. In 1905 a committee was appointed to collect money for a new building, having as its chairman Dr. E. N. Brush, whose advocacy of the movement had produced a deep impression. It would be difficult to name the leader in this good work, where each did his best in money, encouragement or counsel. At a special meeting of the Faculty in April, 1907, finding the committee greatly discouraged with the slowness of collections, the writer suggested that the purchase of a lot with the money in hand would mark progress and stimulate interest. The committee continued its exertions, a member from each county society (these now had 447 members, and Baltimore county physicians were *all* members) being appointed to co-operate. The assets of the Faculty were reported at the end of this year to include: Value of present realty, $15,000; Osler Fund (a tribute of appreciation of his services to the profession), $19,000; Aaron Friedenwald Fund (subscribed by relatives and friends in his memory), $1200; subscriptions to new building, about $10,000. Out of this possible $45,000 a fine lot was bought, and, planning liberally for many years to come, the building committee broke ground in August, 1908, for the beautiful medical home center whose house-warming we now celebrate.

A fireproof building, with stacks for 60,000 volumes; three communicating halls, the largest seating 500 auditors; every other equipment of a great medical center—how the physicians of 1830 would open their eyes!

There is a heavy debt upon the Faculty. Nearly all great anticipatory enterprises involve debt. The Faculty is abundantly able to carry it. Harmony and enthusiasm are all that is needed. The tendency to run Faculty affairs in narrow lines by narrow cliques must be corrected. The shrewd Japs sent two great generals against the Russians and an extra general to keep the two in harmony. Such, too, is Dr. Osler's lesson to the Faculty. After the hustler, the harmonizer! Roosevelt, then Taft!

In addition to the present corps of librarians there should be a man of Dr. Cordell's type appointed to gather in medical treasures—literary, biographical and the like. It is a shame that, through neglect of this, such historic things should be scattered among the medical schools of the city or thrown away. The founders of our library designed it not only to serve the present, but to preserve the memory of the past. The generation which has recovered the lost licensing power will surely not fail to promote each of the great undertakings marked out by the wise foresight of the physicians who laid the foundations of our Faculty.

INTESTINAL OBSTRUCTION.

By Joseph C. Bloodgood, M.D.,
Baltimore, Md.

READ BEFORE THE ANNE ARUNDEL COUNTY MEDICAL SOCIETY JANUARY 12, 1909.

THERE is time for a very short presentation of the subject only. When a large number of cases of intestinal obstruction are collected and studied critically one is impressed that *the chief cause of death is delay*. It is natural to inquire into the reasons for this delay. Intestinal obstruction is a relatively infrequent disease. The busy practitioner may not see two cases in a year. In the onset the symptoms, if not critically studied, suggest indigestion and constipation. Patients with both these troubles are very frequent visitors to the physician, and it naturally follows that cases of intestinal obstruction *are first treated with cathartics*. I would suggest to the general practitioner that he be more careful in his first examinations; that abdominal pain of sufficient severity to require morphia be regarded with grave suspicion; that cathartics be given only after a careful examination and only when the physician is quite certain that there is no intestinal obstruction or other acute lesion of the abdomen.

Intestinal obstruction rarely begins insidiously; its stormy onset should impress one that the trouble is a serious affair. The symptom of onset is usually pain—pain of such severity that it is accompanied by shock (peritoneal shock) and very quickly primary vomiting. These patients in the first hours will toss and turn about in bed in their agony. The majority of these patients, of course, are given morphia. This relieves the pain, and the symptoms of shock subside. Now, if one makes the examination it is often found that the strangulated loop can be palpated either through the abdomen or per rectum or vaginam. Within six hours after the first symptom an examination of the blood will usually show a relatively high leucocytosis of 12,000 to 18,000. From this time on the symptoms of intestinal obstruction are so evident that a diagnosis is not difficult, but in this stage, although operation must be done, the probabilities of a fatal result are greater.

The evidence, then, without question is emphatic in favor of early intervention in intestinal obstruction. What we must learn is to recognize the early symptoms. It is the same question which presents itself in all acute abdominal lesions.

What are the minimum symptoms which justify the opening of the abdomen? Experience clearly proves that the operative results are best when the disease is recognized from its minimum symptoms and worse when the maximum symptoms are present. This can be expressed in another way—the easier the diagnosis the worse the prognosis.

Physicians should be on the lookout for the occasional patient who is suffering from one of these lesions, for which surgical help must be prompt. It is an intellectual treat to make these earlier

diagnoses, and it is a great satisfaction to realize that surgical intervention has been instituted in the period most favorable for immediate and permanent results.

Physicians must give more time to the first examination and more thought to these earlier symptoms. They should not mask the clinical picture with large doses of opium. If pain must be relieved, give morphia hypodermically in smaller doses. Try rectal enemata before cathartics. If vomiting is present, wash out the stomach. Yet how few physicians employ the stomach tube often, and the number who use the rectal tube systematically is small. The rules of observation and non-interference, of means, and not drugs, are very important ones to follow when one has under observation a doubtful case of acute intestinal disease.

Every physician should know how to make a blood count. The blood picture is much more of diagnostic value than the pulse or temperature.

Physicians employ physical diagnosis more frequently in diseases of the chest than in diseases of the abdomen. This is strange, when we know that earlier recognition is much more important in the abdominal trouble. This state of affairs is due, I am convinced, to the fact that surgeons are not as good teachers as physicians. Their instruction in the physical diagnosis of the abdomen is not as good as that of the physician in regard to the chest. Of course, it can be offered as an excuse that material for instruction in acute abdominal lesions is scanty, and as the patients must be operated upon immediately after their admission to the surgical clinic, only a very few can receive instructions.

Yet the physician can educate himself in the methods of palpation and percussion of the abdomen. The sense of touch necessary to distinguish the slight degrees of muscle spasm can be quickly developed by practice. Percussion is often neglected. The obliteration of the liver dullness when there is very little abdominal distention is a characteristic symptom of gastric or duodenal perforation, but even in large surgical clinics a note as to this is not often found. Movable dullness in the flanks is a pretty positive sign of fluid, and its presence is a great help in diagnosis. This is not the place to consider in detail percussion and palpation, but it is an opportunity to impress upon you that in your first examinations, especially when the patient is apparently not very sick, physical examination of the abdomen is apt to be neglected or to be made in a very cursory way.

The sum and substance of any paper by a surgeon to the general profession on intestinal obstruction or any other acute abdominal lesion must necessarily portray the true state of affairs. Progress in surgery of these diseases depends on their earlier recognition. The better technique, the great experience and the handicraft of the specialized surgeon avail but little when applied to the late stages as compared to the early.

In the history of appendicitis, gall-stones and intestinal obstruction one will find that the remarks made today are but a repetition

of previous papers. Unfortunately, it is still necessary today in the less-frequent acute abdominal lesions to emphasize again and again that they must be recognized earlier if we wish to improve the results. In intestinal obstruction the mortality after 48 hours is so high that a delay of this length of time is unjustifiable, and I am confident that if patients are carefully studied it will never be necessary in acute intestinal obstruction to wait 48 hours for a diagnosis.

CLAUDIUS GALEN.

(131-200 A. D.)

SECOND OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter II.

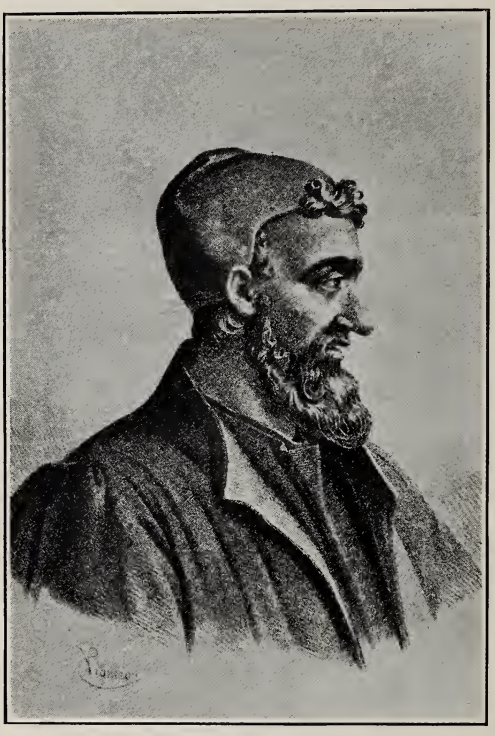
With the death of Hippocrates it can be truthfully stated the art of medicine in Greece underwent a decline. From that date up to the Macedonian supremacy it accompanied the general intellectual decadence manifest in the termination of the Grecian State, and, with some few exceptions, brings to a close the period leading up to the Alexandrian school. Aristotle, although not, in the strict sense of the word, a medical man, contributed to the science of anatomy and physiology much of value, and Theophrastus founded the science of botany.

With the decline of Greece commenced the ascendency of Alexander, and, under most liberal encouragement, medicine was established upon a sound basis in the school at Alexandria. The law handing over to the medical men the bodies of criminals condemned to death gave the Alexandrians an opportunity to develop the science of anatomy, in which they were much more proficient than the Greeks.

Of the great medical characters in this period three need only be mentioned—Herophilus, a pupil of Cos and Cnidus, who adhered to the Hippocratic school; Dioscorides, and Arasistratus, who took opposite views, paid less attention to anatomy and leaned toward the mechanical explanation of symptoms. This latter led up to the empiric school, founded by Philinus of Cos (280 B. C.), a pupil of Herophilus. The empirics put no value on anatomy. They taught that it was needless to inquire into the causes of things, but rather it was more profitable to observe minutely the actual phenomena of disease. Experience formed the entire basis of their practice, and this could be obtained from personal observation, recorded observation and judgment by analogy. These formed the "tripod" of the empirics.

In Roman medicine the earliest name of importance is that of Asclepiades, who lived in the early part of the second century B. C.

He believed in the atomic doctrine of Epicurus, and taught that disease depended upon changes in the size, number and arrangement of the atoms which made up the body. Themison, one of his pupils, gave permanence to his teachings by founding the school of the Methodici, or Methodists. Like the empirics, they declared it was useless to inquire into the cause of disease. All diseases had three common qualities, viz., relaxation, contraction of the minute passages, and a mixed state, partly lax and partly constricted.



CLAUDIUS GALEN.

To Themison belongs the credit of introducing, as a curative measure, the use of leeches, an institution which was adopted by Galen, although in every other respect their teachings were as divergent as the poles. Since that time this practice is found in every age.

The greatest exponent of the Methodici was Soranus of Ephesus, who wrote a work on the diseases of women.

More important than these is the name of Dioscorides. There is no record of the exact time of his birth. To him we are indebted for many additions to the materia medica. His influence extended up to the sixteenth century and his work was followed almost slavishly by many generations. He was born in Cilicia

some time during the first century, and wrote in corrupt Greek. His principal work is in the form of a dictionary, arranged alphabetically. Following the name of a plant he gives a description of its appearance and its medicinal value. He divides his drugs into the qualities of "heat" and "cold," and recommends their use in diseases which have the same characteristics. Among the drugs described are opium, squill, asafetida, ammonia and castor oil, although it appears that he limited the latter to external use as an application.

This brings us up to the second great character in medical history.

In the little town of Pergamus, in Mysia, Asia Minor, Claudius Galenus was born, A. D. 131. Like the birthplace of his great predecessor, the town was noted for its famous Temple of Aesculapius. His father, Nicon, appears to have been a man of great learning, but not without some superstition, for it was as a result of a dream that he put his son to the study of medicine. His mother has been described as a second Xantippe, being rather free with her tongue and not averse to occasionally biting her servants. However, she is said to have had some admirable qualities, and was greatly interested in her son's studies.

His early preparation consisted in tuition from his father, whose wide range of knowledge included skill in geometry, architecture, astronomy, arithmetic and logic. At an early age he displayed a natural inclination for travel, and he undertook the hazardous journey to the Dead Sea in order to make an investigation into the asphalt beds there located. This followed a somewhat successful course in the native schools of philosophy, where he gained many honors. At the age of 28 he returned from Alexandria, where he had acquired much skill in anatomy, and was given the appointment of physician to the temple, at which he attended the injured resulting from the public games. He remained at Pergamus until he reached the age of 34, when, on account of political disturbances, he left for Rome.

Galen in his early days was considered somewhat of an athlete, and, as a result of his official connection with the public games, acquired considerable skill in fencing and wrestling. His first experience of note at Rome was to take part in a wrestling match, which resulted in his receiving a dislocated shoulder. His earliest exhibition in surgical skill was the successful manner in which he gave the attendants directions for reducing the dislocation. In this Galen exhibited a confidence in his own skill which is rather unique in medical annals. Very few physicians have the inclination to trust to their own powers in such emergencies. This fact is such a well-known one that it caused a wag several centuries ago to declare that "anyone who is his own physician has a fool for a patient."

A story is related that a certain doctor had such bad luck with his patients that he was well-nigh driven to despair. As a matter of fact, misfortune so strenuously pursued him that it became

almost a foregone conclusion that anyone whom he might treat would positively succumb. One day he himself became ill, and, very much against the advice of his friends, took his own prescriptions. He was no more fortunate in his own case, and soon died. The following was written for him as an epitaph:

"Faithful to that law divine,
Which bids us never draw the line
Between ourselves and brothers.
Always in this course he run;
As now unto himself he's done,
The same did he to others."

During the period of which we write Rome was not what might be considered a great field for the practice of medicine, although it had a population of over 2,000,000. With the exception of about 10,000 or 15,000, the inhabitants were divided between the plebeians, who formed really a more or less pauper class, and the slaves, who composed the remainder. The populace in a great measure existed on charity or State aid, and the slaves, of course, were the chattels of their patrician masters. So it will be seen that the field was somewhat limited, but Galen soon acquired a great reputation among the small upper classes. These were not entirely free from that bane of science, superstition, and, as a natural result of their environment, were often arrogant and tyrannical. But even tyrants are merciful to their own bodies, and Galen's skill in the healing art attracted to him a considerable clientèle. He received $1750 for curing the wife of the Consul Boethius, and another famous cure was that of Eudemus, the distinguished philosopher, who had taken an overdose of theriacum. Galen's skill attracted to him many friends among the nobility, and, at the suggestion of the Consul Boethius, the future Emperor Severus, the philosophers Eudemus and Alexander of Damascus, he decided to deliver a series of public lectures on anatomy.

However, at this stage, the professional jealousy and rancor of the Roman physicians assumed such proportions that, upon the outbreak of an epidemic, he left the city in disgust and sailed for Greece. The difficulty under which Galen had practiced his profession in Rome can possibly be better understood when, as he himself has recorded, it is related that a Greek practitioner and his two assistants had surreptitiously been assassinated by their Roman brethren for no other cause than that they had attained great popularity.

After a short stay at his native Pergamus the old thirst for travel again mastered him, and he set out for the Island of Cyprus, where he studied the metals and collected a large variety of mineral substances, later paying a second visit to Palestine. He wished to study the products of the materia medica upon their native soils, and in this manner made many discoveries of value. But the Romans had a desire for his return, and before a year had passed he was sent for by the Emperor Marcus Aurelius, who was then engaged in a war against the Marcomanni and other German

nations. He set out for Aquillia, passing through Thrace and Macedonia, but learning that Lucius Verus had died of the plague, he made his way back to Rome. Shortly after his arrival he was appointed physician to the young Emperor Commodus. He soon became a favorite at court, and his fame as a physician spread to many lands, earning the title "Paradoxologus," the wonder-speaker, and "Paradoxopeus," the wonder-worker.

For something like 1300 years the works of Claudius Galen continued to carry with them a supreme influence, a fact in itself sufficient to warrant the assertion that the physician of Pergamus may be placed among the greatest medical characters in history. It cannot be said of him that he was the peer of his well-beloved predecessor, Hippocrates, any more than it can be said a part is as great as the whole, for while the Father of Medicine set up the framework, Galen could, after all, but fill in a part of the structure. While Hippocrates was the great originator, it was only left for the skill of Galen to be the transcriber.

Galen was, in reality, principally an encyclopedist. He culled all that he thought was worth while and presented the result to posterity. He was not in accord with the teachings of the schools of the day, and he neither allied himself with the dogmatists nor with the empirics, and he was no more influenced by them than by the methodists or the pneumatists. He could see a stratum of truth, perhaps, in each, but would have none of the whole. So while the exponents of the different schools lost themselves in the elaboration of profound subtleties, Galen set out to clear up, in a measure, their differences. His task was a gigantic one, and it is no doubt due principally to the result of this effort that he has been handed down to succeeding ages. More fortunate than Hippocrates, he had a foundation to work upon. However, what he gained in this particular he lost in having to wade through and assess a mass of pseudo-scientific facts accumulated during the five centuries intervening between the two great masters.

His vast contributions to medical literature consist of from 400 to 500 treatises, and half that number he devoted to general or non-medical topics. Through his entire works can be observed the dogmas of Plato, Aristotle and Hippocrates, of whose philosophy he was a profound student. Throughout, he displays ingenuity and thorough application and a well-grounded knowledge of the wisdom of his age. He not only points out the folly of much of the existing teaching, but rises superior to his time in the elucidation of his own theories.

Galen was, indeed, a great compiler. No department of medicine was outside of his grasp, and whatever he deemed of value he set down clearly and distinctly.

None of his writings display a greater accuracy than his work on anatomy. Much of our own knowledge is due to his indefatigable labors in this science, and when it is considered that the field of anatomical research was principally limited to dissections of animals, it must be admitted that he was a most accurate observer.

It is no doubt true that much of his information was gathered from the knowledge of the period, but it is equally true that he made a great number of original additions.

The scarcity of material for study can be surmised by the recommendation made by Galen to his pupils to go, if possible, to Alexandria, where, he asserted, "there could be seen two human skeletons."

The Romans held the cadaver in as much awe as did the Greeks, and this made dissection impossible. However, certain animals were studied, and it may be concluded that Galen made the most of the material at hand. His contributions to the science of anatomy are numerous. In his works on this subject he no doubt united all that he had gathered from the teachings of his various masters with that which he had gained from personal research and investigation.

He made numerous contributions to osteology. He named and described the bones and sutures of the cranium and gave the first classification of the vertebrae. He also gave a good description of the bones of the thorax, the extremities and their articulations. In myology Galen covers the field so well that many of his names and descriptions are used at the present day. In angiology he displays great skill, considering his time. In direct opposition to the teachings of Pagoras and Erasistratus, he proved that the arteries in the living animal contained blood, and not air, although he did not carry the discovery to its logical end. He also takes up in a masterful manner the study of the nerves, and in describing the organs of the thoracic and abdominal cavities he exhibits an accuracy of knowledge far in advance of any of his confrères. He was the first, perhaps, to describe in a reasonably accurate manner the cardiac valves and vessels, and also to point out the similarity in structure of the pleura and peritoneum. He also distinguished the component parts of the alimentary canal, and he made a close anatomical study of the organs of generation.

In the speculative branches of medicine he was often carried away by an overzealousness in attempting to give physiological explanations for all phenomena. This, however, did not prevent him from lighting upon numerous medical truisms. He was the first to recognize that diseases had their remote and proximate causes, and he divided the former into predisposing and exciting. He, however, almost became ensnared in the meshes of the pneumatic doctrine, whose *raison d'être* was the belief that the "pneuma," or soul, played an important part in disease. He, however, differs from this doctrine in that he declared that the "pneuma" was different from the soul, "but was a medium for the action and reaction of soul and body." The seat of the soul, he insisted, was in the brain. The spirit, or "pneuma," had access to it through the foramina, which communicated between the nostrils and the interior of the skull.

Galen early recognized the significance of the pulse as an indicator in disease, but in his endeavor to make it of extremely prac-

tical importance he lost himself in most vague tabulations. A pulse was long, broad, high, large; long, broad, low, etc. Or it was quick, quick, slow; quick, quick, quick, etc. He described 27 varieties of the quality and as many of the rapidity of the pulse. Not content with this minute tabulation, he named many other minute characteristics.

In materia medica he had ideas equally vague. Medicines were divided according to their inherent heat or coldness, dryness or moisture. He went deeper still when he divided these qualities into degrees, and recommended the one that was opposed to that quality of disease in accordance with the *contraria contrariis curatur* theory, a doctrine that was passed through the dark ages and practiced up to the last century by the Persians.

It will be observed that although Galen had no patience with many of the uncertain doctrines of the day, yet he permitted himself to wander into equally vague realms. It is perhaps too much to expect of one man, genius though he be, to cut himself off entirely from the teachings of his age.

But Galen builded well. He undertook a colossal work, and without prejudice, with mind open and ready for conviction, he labored long and energetically at his task. We know him best for his indefatigable efforts to present the accumulated knowledge of his age for the benefit of posterity. The generations of medical men who have been following in his footsteps have profited by his labors. Shorn of the dogmas of the age, his works stand out as a lasting example of what one master mind may accomplish within the span of a human life.

It can be said of Galen that he was a true lover of nature. He reveled in the glories of creation. God's handiwork to him displayed itself in a myriad of beautiful forms, each in itself a delight. Having studied all the philosophies, he found something good in each, except that of the skeptics, for he could never be brought to believe its doctrine that all knowledge was uncertain. He saw in all things a *raison d'être*. Nothing was created without its beneficent function. Things were conformable to a divine purpose. That he was a monotheist is evident from a passage in his work, "De Use Partium," Lib. III, quoted by Muir: "True piety," he says, "consists not in imolating hecatombs to the Deity or in burning a thousand delicious perfumes to His honor, but in the humble acknowledgment and lofty proclamation of His wisdom, His omnipotence, His love and His bounty. He has shown His infinite wisdom in selecting the best means for accomplishing His beneficent ends, and He has given proofs of His omnipotence in creating everything perfectly conformable to its destination." A truly beautiful exposition!

After a long and distinguished career among the Romans, he returned to his native Greece. His death is given variously at from 70 to 80 years of age.

For more than 1300 years his teachings were followed implicitly—a long period for the influence of one man to survive.

REPORT OF A CASE OF HEMIPLEGIA AS A COMPLICATION OF TYPHOID FEVER.

J. B. Piggott, M.D.,
Assistant Resident Physician, University Hospital.

READ BEFORE THE BALTIMORE MEDICAL SOCIETY, FEBRUARY 12, 1909.

L. G., age 25; female; single; seamstress; entered University Hospital October 17, 1908, with history of exposure to typhoid fever, having nursed her mother during an uneventful course of this disease. A younger sister, similarly exposed, contracted the disease, and was brought to hospital five (5) days later presenting the usual symptoms and convalescence marred by no complications, otherwise family history negative.

Menstrual history normal. No children or miscarriages.

For about one week prior to entrance patient complained of pain and aching in back and limbs, severe headache, chilly sensations, marked fatigue and languor, loss of appetite, epistaxis, sleeplessness, constipation, abdominal discomfort, disagreeable taste in mouth and slight cough. On admission, temperature 104 3-5, pulse 112, resp. 26. Mental condition clear; slightly drowsy. Fairly well developed and nourished white girl, weighing 120 pounds, 5 feet 6 inches tall. Pupils equal, react normally to light and accommodation; ocular motions good; lips covered with sordes—dry and parched. Tongue protruded in median line, tremorous, thick brownish-white coating on dorsum. Lungs negative, save for slight bilateral bronchitis.

Heart—P. M. C. I. Visible and palpable in fourth interspace, one inch inside of nipple line. Slight accentuation of second pulmonic. Otherwise heart negative.

Abdomen distended, tympanitic, gurgling present in right iliac region, lower margin of spleen palpable, profuse crop of rose spots over abdomen, chest, front and back.

Reflexes—Patellar present and equal. No Kernig, Babinski or ankle clonus.

Pulse—Radials equal and synchronous, regular in rhythm, volume and force normal, tension little minus, no dicrotism.

Widal and agglutometer test positive on following day, leucocyte count 8400. Urinary findings negative.

Throughout its course patient's infection was of a virulent type, characterized by grave nervous manifestations. Low muttering delirium, at times patient violent, having to be restrained. Temperature for 12 days following admission remaining around 104. Pulse 100-120, weak and dicrotic, requiring stimulation. Resp. 20-30. Considerable bronchitis, with distressing cough. Albuminuria.

On November 9 temperature approaching normal line, pulse 70-100, resp. normal. This condition of affairs remaining so

only two days, when temperature showed a gradual stepladder ascent, maximum 104 degrees being reached in seven days, with pulse 120-140.

On December 13 temperature again normal, patient complaining of severe earache; no mastoid tenderness. The following morning a profuse purulent discharge noted in left canal; with this discharge a cessation of the pain. Temperature remained normal for five days, but again showed a gradual rise, reaching 103-104 on December 21, with corresponding increase in pulse rate.

The evening of December 30 patient in excellent spirits; mental condition perfect, appetite good, taking nourishment well. Temperature 101, pulse 90, resp. 20; no free discharge from ear, hearing good, lungs negative, no increase of area of cardiac dullness, sounds of good quality, slight accentuation of second pulmonic. No bowel or bladder disturbances.

Six A. M. December 31 doctor called to see patient on account of slow and weak pulse. Pulse 68 to the minute, volume and force small, easily compressible, tension minus, right radial slightly stronger than left, temperature 98.2 (which six hours later was 96.1), pulse 62, resp. 18. Patient lying on right side. Mental condition dull, responding slowly to questioning; speech scranning, thoughts coherent, expression anxious—much depressed. Some delirium during early part of night.

Eyes—Pupils dilated, right more than left; both active to light, but left more active than right. Marked deviation of eyes toward right; ocular motions poor, being more or less fixed in this position. Able to close right lids tightly, but unable to close those of left, a quarter-inch chink intervening. Eye grounds normal. Tongue protruded toward left, protruded slowly and with difficulty. Angle of mouth drawn slightly toward right. Able to wrinkle brow and puff out cheeks. Lips and mucous membranes dry and parched. Left ear shows slight discharge; no mastoid tenderness. No headache, nausea or vomiting. Breathing regular, quiet and peaceful—of normal depth. No rigidity of neck muscles or retraction of head.

Heart—P. M. C. I. Visible and palpable in four I. S. one inch inside of nipple line. At apex first sound of good quality; second sound accentuated and slightly musical. Accentuation of second pulmonic, aortic sounds distant. Otherwise no abnormalities noted. Lungs negative.

Spastic paralysis of entire left side. On this side reflexes exaggerated, and to a greater extent than those of opposite side. No Kernig, Babinski or ankle clonus, incontinance of urine and feces, loss of rectal and vesical reflex. Sensation much impaired on paralyzed side.

On January 20 the following condition noted: On left side slight weakness of the seventh nerve—this more marked in lower than upper branches. Slight weakness of the twelfth on left side.

Motor Functions—Upper and lower extremity strength good for condition of patient. On left side absolute paralysis of forearm

and arm. Paralysis of extensors of the foot, paralysis of the flexors of the leg, and very marked weakness of the flexors of the thigh. Extensions of the leg and thigh show fairly good power.

Reflexes—Deep are universally exaggerated, more so on left side.

Superficial—Abdominal present on right; absent of left.

Plantar reflexes present on right side; on left plantar stimulation produces extension of the phalanges of the toes (Babinski). No abnormal movements. Co-ordination on right side good; could not be tested for on left.

Although patient rather emaciated, due to her protracted illness, yet there are no true muscular atrophies.

Paralysis of a spastic nature. Tactile sensation obtunded on toes of left foot. Pain and muscular sense normal. Patient can control rectal and vesical reflex only for a short period, but this condition shows a progressive improvement.

Two months after the hemiplegia patient shows no facial or hypoglossal paralysis. Able, with assistance, to walk around ward. Both lower extremities weak, more marked on left side. Patellar reflexes increased. No pain on motion. Complete paralysis of left arm and forearm, but reacts well to faradic current. Absolute control of bowel and bladder functions. Still slight albuminuria. General condition of patient excellent, gaining rapidly in weight and strength.

Hemiplegia with facial and hypoglossal paralysis may occur as a consequence of hemorrhage, thrombosis, embolism or abscess. This condition is generally met with in the febrile period or during convalescence. (Allbutt).

The lesion is usually thrombosis of the arteries, less often a meningo-encephalitis. In 17 cases of typhoidal hemiplegia collected by Dr. F. H. Hawkins, aphasia was present in 12. (Osler).

To my mind this case presents several salient features, as follows:

Hemiplegia as a complication of typhoid fever is a rare condition. Its occurring at an early age in a previously healthy individual with apparently good circulatory system. Preceded some 17 days by a left otitis media. Twenty days following we have an otitis media of right side. Occurring during the febrile period, temperature 101, pulse 88, resp. normal, three hours prior to the hemiplegia. Temperature remaining subnormal (96-97 degrees) for 36 hours following onset of hemiplegia. Following lesion temperature has remained normal or even subnormal. A paralysis that has shown a gradual tendency to clear up, though less evident in arm and forearm.

In conclusion, in our diagnosis we must consider hemorrhage, thrombosis, embolism or abscess.

In this case I suppose we are dealing with a thrombosis of the lenticular striate artery, with a secondary small area of softening in the internal capsule, for the following reasons:

(1) The stroke occurring as it did without loss of consciousness.

(2) Coming on while patient was lying quietly in bed, being neither emotionally or physically excited.

(3) Not having the usual temperature reaction which occurs in hemiplegia.

I believe it to be in the internal capsule for the following reasons:

(1) Sudden coming on of the complete hemiplegia.

(2) Absence of irritative signs.

(3) The persistence of the complete hemiplegia.

(4) The typical manner in which the hemiplegia is improving.

SUBCUTANEOUS HYDROCARBON PROTHESES. By F. Strange Kolle, M.D. New York: The Grafton Press.

Of this little book nothing but good could possibly be said. The subject-matter is extremely interesting and instructive, and the publisher's work is beyond criticism. Just how the prothetic specialist does his work has been a source of much curiosity to the average doctor, and what its dangers and how the effects persisted he has often wanted to know. It is explained in the little book before us with charming honesty as to its perils. There are a number of portraits of patients "before and after," although it is evident that the full improvement could not be portrayed in black and white. The 50 pages of mishaps and how to avoid them has made us more than ever resigned to the ordinary perils of the editorial life. We shall certainly not prothesize at this advanced period of our pilgrimage. First, there are the dangers of the melting point of the hydrocarbon. If it is not right, it may spread abroad under the skin, or cause a tumor, or slough, or form a permanent bump of a deep cherry red, or produce embolism, with sudden death, and other disagreeable things.

One of the most excitingly interesting things about it all is that at any moment in after life a most beautiful prothetic prominence or filling may suddenly be seized with a passion for emigration, and proceed to travel under the surface to a spot which it likes better. Thus a mass of hydrocarbon placed in a hollow of a sunken nose may travel upward and settle in the eyelids.

The operation should never be done under general anesthesia. A contract, drawn up in legal form, and stating exactly what the operator hopes to do and what he does not expect to do, is a necessary preliminary to work. Ladies who have been restored by the method to reasonable comeliness, yet demand additional artificial charms, are to be shunned.

We would especially recommend this specialty to the variety of young graduate who finds ordinary practice deficient in snap. If he will make his property over to his wife, get a large death insurance and engage a Western "bad man" for his office boy, then settle among the wealth of Manhattan, he will have a most useful life before him. The method seems to give most pleasing results in certain ugly deformities, especially in the hands of a worker like our author, who is evidently very cautious, and prefers several small injections at reasonable intervals to larger and more uncertain ones.

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D., Baltimore, Md.

PYOGENIC OSTEOMYELITIS.

TUMORS and inflammation of bones are essentially the same as similar lesions occurring elsewhere in the body. The peculiar structure of bone modifies the course of the process, but only in a passive way. Inflammatory reaction shows itself in the very vascular supporting connective tissue of bone, while the calcified hard material remains passive. The relation of the periosteum and marrow, however, is so close that these structures must be considered in studying bone diseases. Osteoclasts, the bone forming cells, occur in both tissues, and, therefore, we may have new bone formation in any process which affects either tissue. On the other hand, the osteoclasts, the bone destroying cells, are seldom active in disease, the bone absorption then being produced by pressure and other varieties of circulatory interference.

Considered in a general way, a long bone may be looked upon as a tube (*the shaft, or diaphysis*), with the expansion at either end (*the head, etc., or epiphysis*). The center of the tube is filled with vascular fat containing many specialized cells (*the marrow*). The wall of the tube for the most part consists of hard, compact bone (*the cortical bone*). The inner portion of this wall is spongy bone (*cancellous bone*), and the spaces are little cavities with partitions of thin bone, filled with marrow. The expanded ends have a narrow outer layer of compact bone, the rest of their structure being spongy bone, without a central marrow cavity. To this end of the bone is always attached the joint cartilage and the synovial membrane. The cortical bone is intimately covered by a vascular membrane (*the periosteum*), whose especial function is bone formation.

The nutrition of cancellous bone comes entirely from the vessels of the marrow, while that of the cortical bone also comes from the periosteum. The Haversian system carries the blood vessels, nerves and lymphatics surrounded by fat through the compact bone.

Osteomyelitis is an inflammation of bone marrow and bone due to bacterial infection. Except those cases directly due to an open wound of the bone, the infection is always metastatic, and may run an acute or chronic course.

Frankle (*Mitteil. aus den Grenzgeb. der Med. und Chir.*, 1903) has studied the relation of the bone marrow to infectious diseases. Practically any of these diseases may become the route of entry for the bacteria, causing bone suppuration. Often a considerable time elapses between the original infection and the development of osteomyelitis. Nowhere in the body are bacteria so prone to remain latent for long periods of time as in the bone marrow. For this reason the original focus of infection is often forgotten by the

patient at the time the osteomyelitis develops. After the bone marrow becomes the seat of a latent bacterial infection, some additional factor seems to determine the point at which the disease manifests itself. A slight traumatism is the most constant cause in our histories. Any interference with the circulation seems to lower the local resistance sufficiently to allow the organisms to begin to grow.

BACTERIOLOGY.

All forms of pyogenic bacteria have been found in osteomyelitis. The staphylococcus pyogenes aureus is the most common infecting agent, but the streptococcus, the pneumococcus and the typhoid organisms are frequently found in the disease. The infection is rarely a mixed one; practically always the organism is found pure. Lexer, Launelongue, Puritz and many others have studied the bacteriology of osteomyelitis. A full review of their publications by Dr. Bloodgood will be found in *Progressive Medicine* for December, 1899 and 1904.

The localization of the focus in the bone is very constant. In the long bones the focus is usually near the epiphysis. Lexer (*Archiv f. Klin. Chir.,* 1903 and 1904) injected the arteries of the bone with mercury, and then, by means of X-ray pictures, studied their course and arrangement. He describes three groups of vessels in the bones of new-born and young children: The diaphyseal; the metaphyseal, on both sides of the epiphyseal line, and the epiphyseal vessels that enter at various places from the edge of the epiphysis. The bone in the region of the epiphysis receives terminal arteries from each of the three groups. With increasing years the size of the arteries becomes smaller in relation to the area of bone. The diaphyseal arteries are most narrowed until at the termination of the period of bony growth; these vessels are very small. The narrowing of the other two groups is less marked, while the arterial area to the joint structures is greatly increased.

Lexer states that the infectious foci are embolic. Usually the embolus consists of clumped bacteria alone, and its size determines the locality of the abscess. A large mass, plugging the diaphyseal artery at or near its bifurcation, will produce a primary focus in the shaft; a smaller plug will reach a terminal branch, and the abscess will develop near the epiphysis.

PATHOLOGY.

The pathological picture is progressive, and the sequence is usually as follows: The abscess develops at the site of the embolic plug in the bone marrow. The usual reaction follows, a wall of granulation tissue is formed and the process may be arrested here, going on to form a chronic bone abscess (*Brodie abscess*). As a rule, however, there is a spreading of the disease, the granulation tissue in its growth or the toxins present causes destruction and absorption of the bony walls of the cavities of the cancellous bone. This extension of the abscess continues, the purulent products get into the Haversian system, and by this means penetrate the cortical bone. During this time the periosteum will have be-

come irritated, and a subperiosteal edema may develop. In children especially, at this stage, a condition of hydrops in the neighboring joint is often found.

Next the pus will be noticed under the periosteum, a subperiosteal abscess that may extend a varying distance up the shaft, lifting the periosteum from the bone. The neighboring soft parts now become edematous, and the periosteum may rupture, discharging pus into these soft parts. If neglected, this soft part abscess will burrow, until finally a spontaneous opening is formed.

After the formation of the subperiosteal abscess we have an area of cortical bone between two foci of suppuration—medullary and periosteal. The nutrition of the bone is thereby shut off, and it dies forming a *sequestrum*. At the same time the irritation of the periosteum stimulates it to activity, and new bone is formed by this membrane (*the involucrum*).

The infected sequestrum causes chronic suppuration, and the multiple abscesses often open spontaneously. The sequestrum may be discharged and the abscess heal, but as a rule the untreated abscess goes on to sinus formation. This is the picture in chronic osteomyelitis where we find a shaft of worm-eaten appearance, the result of multiple areas of necrosis, surrounded by a thick shell of rough periosteal bone often eburnated, and occasionally with considerable areas of dense endosteal bone from the proliferating osteophytes of the marrow.

SYMPTOMS AND DIAGNOSIS.

Acute osteomyelitis is overlooked or unrecognized more often than otherwise. The clinical picture is that of a severe general infection, while the localizing symptoms may be very slight. The latter, however, are always present, and careful examination of the bones and joints in the course of an atypical infectious disease will often discover a focus of osteomyelitis as the real lesion.

The earliest local signs are pain and tenderness, followed by swelling. The pain and tenderness are due to the tension in the marrow cavity, brought about by the suppuration, and to the local reaction of the periosteum. The swelling is the collateral edema of the periosteum and soft parts. These local signs, associated with fever and leucocytosis, make the diagnosis of acute osteomyelitis at the stage when a simple operation will cure the disease and rescue the patient from the danger of general septicemia and the inconvenience of a prolonged illness.

In the subacute stage of the disease we have more or less necrosis of the shaft, with the bone-forming reaction of the periosteum well established. There is always sinus formation. In the chronic form there are single or multiple sinuses with sequestrum and involucrum present. The X-ray is valuable in both these forms to show the extent of bone destruction and reaction, but is of no value in the diagnosis of the acute variety.

Arthritis in children is often the first sign of acute osteomyelitis of one of the bones entering the joint involved. The joint

fluid is usually sterile, but cloudy from leucocytes. The findings from examination of the joint contents are never enough to account for the severe clinical symptoms present, and a careful study of the adjacent bones will show the local signs of an epiphyseal abscess.

TREATMENT.

In the acute form the abscess is opened and drained. When the diagnosis is made early it will be necessary to incise skin and soft parts to strip back the periosteum and chisel the bone in order to reach the pus. The walls of the bone cavity should always be made smooth and regular, and the opening should be the shape of an inverted truncated cone. Operating later, the pus will be found under the periosteum, and the spontaneous channel through the bone should be traced out and enlarged. The marrow cavity must not be curetted.

Occasionally the process may have reached the stage of periosteal bone formation at the time of operation. Then after incising the periosteum we find lamellae of new spongy bone adherent to this membrane.

The subacute stage is the period of sequestrum and involucrum formation. The operation required here is Nichol's subperiosteal resection (*Jour. Amer. Med. Assoc.*, February 13, 1904). This operation is a secondary one to follow incision and drainage of the abscess, and its object is to remove the dead bone at the same time when the new bone formation is active but has not advanced to the stage of dense cortical bone. This time will vary in different individuals. It is usually best to operate at about the eighth week after the opening of the abscess. The layer of new bone should be about one-sixteenth of an inch thick at this time. The degree of new bone formation may be estimated from the X-ray shadow or from direct examination of the tissues.

The operation consists in separating the periosteum, with its shell of new bone, from the infected shaft and excising an area of the old bone sufficiently extensive to get well beyond the infected marrow. The epiphysis must always be preserved. The periosteum is then sutured tight, and the soft parts closed with small drains at either end of the wound.

The chronic stage is much more difficult to treat. The subperiosteal resection requires the removal of the entire diaphysis of the bone, and the after-treatment requires much more care. When the infected bone is one of two parallel ones, so that the healthy bone will act as a splint during healing, the conditions are not so hard to manage, but when the bone is a single one, for example, the femur or humerus, the difficulties of preserving the form of the limb are much more serious. The operation is essentially as described above, and in the after-treatment the part is kept on a splint until enough new bone is formed to support the function. The length of time required for this result varies from five months to a year, and the condition of the bone is best studied by the X-ray.

REVIEW IN GYNECOLOGY AND OBSTETRICS.

A. Samuels, M.D., Baltimore, Md.

PATHOLOGICAL SIGNIFICANCE OF LEUCORRHEA AND TREATMENT.

PROBABLY the most important symptom in diseases of women next to pain is that of leucorrhea. In many cases it is the first symptom to direct the patient's attention to a possible pelvic disorder. To determine its significance in some cases requires more than the ordinary methods of routine investigation. Leucorrhea resulting from puerperal or specific infections will not be discussed, as the pathology of these diseases is well known, and they yield quickly when the proper treatment is given. The more particular causes of this symptom, to which reference is made in this paper, are those which occur from chronic conditions, and will be shown to constitute the majority.

The prime factor in the causation of leucorrhea is a disturbed uterine circulation. The veins in the immediate proximity are valveless, and are held in position by a special pelvic fascia, ramifying through the ligamentous supports of these viscera. This condition is described by the elder Emmet as the "grape vine and its arbor," the latter representing the fascia. Any condition that impairs the supporting arms of the fascia reflects itself sooner or later on these veins, either increasing or decreasing their lumen by stretching or from pressure. There being no valves, compensation is lost, resulting in dilatations, varicose conditions or obstructions impeding circulation in the vessels and engendering a passive hyperemia or venous engorgement.

It is a well-known clinical fact that venous blood is an excitant to glandular activity, the uterus being rich in these structures discharges under these conditions a constant outflow of secretion. A discharge resulting from gland secretion is generally clear or opaque in color and thick in consistency. Clinically this symptom is prominent in young girls about the age of puberty or before the menstrual flow is fully established. The discharge may be increased by congenital flexions, sedentary habits and in a lowered vitality, produced by overstudy or constitutional derangements.

Long-continued congestion brings about a typical reaction in the mucosa. The changes are slow and gradual, resulting in one of the various forms of endometritis which have been variously described as "hyperplastic endometritis," "hypertrophic glandular endometritis" and "interstital endometritis." The difference in the various forms is merely that of degree.

Venous obstruction may arise from local conditions that obstruct the venous return, such as would be caused by tumor within or without the uterus, or from displacements. Clinically these cases are characterized by a gradually increasing menorrhagia and profuse leucorrhea. After the menstrual flow has ceased a leucorrhea makes its appearance and continues through the intermenstrual period. It is profuse, rather thin in consistency, and varying in color. From its profuseness it keeps the patient con-

stantly wet. The parts from being bathed in this discharge, which is more or less irritating, become somewhat excoriated.

Laceration and cystic conditions of the cervix produce a leucorrhea, not so much by interfering with the uterine circulation, but by secreting a mucopurulent discharge from the diseased conditions.

It is not to be inferred from the foregoing that all leucorrheas result from pelvic conditions disturbing the uterine circulation, but rather to show that the majority owe their etiology to such conditions, as constitutional defects play an important rôle in the causative agency.

Organic heart infection may cause a leucorrhea. This may also be noticed in renal and hepatic engorgements and in constipation, due to the immediate association of the venous circulation of these organs with that of the uterus. The pathological axiom "that all tissues of the same histological morphology are not exempt from the same pathological processes by reason of difference of location," drugs that cause a weeping of the mucous membranes will produce a leucorrhoea not unlike that caused by uterine circulatory disturbances or constitutional derangements.

Malignant growths of the cervix and uterus give rise to a leucorrhea which differs materially from the discharges arising from the foregoing conditions. It is of a fetid odor, and containing varying proportions of blood. While the odor is not indicative of malignancy, as any decomposing organic matter in the vagina may give rise to a fetid discharge, however, a blood-mixed discharge with a fetid odor should be thoroughly investigated. The absence of foreign material would strongly suggest malignancy.

TREATMENT.

The great mistake is often made in treating this symptom as a distinct disease with local applications or strong astringent douches. This form of treatment may lessen the quantity of the discharge, but unless it has some power of correcting the original cause, the improvement is only temporary; in many cases harm is done.

Flexions and displacements are best corrected by surgical methods. Tampons and pessaries may be used where operation is not advisable. If these foreign bodies are used for the correction of displacements, great care must be exercised in selecting a proper-sized pessary. In selecting a pessary the instrument should be made to fit the patient, not the patient to fit the instrument. Tampons will be found more useful in congestive conditions, but care must be exercised in their application. "Home-made" ones of wool, saturated with pure glycerine, are preferable to the "factory-made" ones. If either tampon or pessary is used for the correction of the flexion or displacement, the uterus must not be forced high up in the pelvis by too large an instrument. If the uterus is made to occupy a high plane in the pelvis the angle of the flexion is increased, and the venous circulation is further disturbed, thereby aggravating existing conditions. These foreign bodies should not be allowed to remain in the vagina for any length of time, as they may cause local ulceration from pressure on the blood vessels.

Endocervicitis and endometritis are best treated by dilatation and currettage. By this method of treating these conditions we may feel reasonably sure that we have removed the diseased tissues, and under present aseptic conditions it is an operation that may be undertaken with little or no danger. To attempt to remove the endometrium by means of chemical caustics is a procedure that is attended with danger. The inflammatory reaction which these caustics produce may not limit itself to the endometrium, but may spread throughout the entire uterus, causing a metritis, or by direct continuity of tissue extend to the tubes, setting up in these organs serious inflammatory changes. Aside from these extreme conditions the method is very unsatisfactory, as we cannot apply the caustic over the whole surface of the endometrium. The fallacy in the method of trying to apply medicine over the entire surface of the mucous membrane is well illustrated in an attempt to cover the whole of the inner side of a bottle through the neck with a straight or slightly-curved instrument.

Cystic conditions of the cervix are best treated by opening the cysts and destroying the cyst wall with silver nitrate stick.

Old inflammatory conditions of the pelvis which give rise to a leucorrhea can only be corrected by surgical methods, which consist in the removal of the diseased parts.

In congestive conditions of a simple nature, a vaginal douche is often beneficial when properly employed. The douche should be given with the patient in a recumbent position, with the hips well elevated, and from six to eight quarts of water at a temperature of 110-120 degrees allowed to flow through a wide nozzle. The elevation of the douche bag should not be over three to four feet. A douche given in this manner has a two-fold feature:

(1) Removing vaginal secretion which may have become lodged in the folds of the vagina.

(2) The parts are given a gentle massage. The hot water at first causes a dialatation of the blood vessels, bringing an increased amount of blood to the parts, which is followed by a strong and lasting contraction of the blood vessels which drives the blood away and relieves congestion. By relieving congestion the parts are put to rest, giving nature a chance to heal. This is very well illustrated by the "washer-woman's" hands; when first immersed in hot water they become swollen and red, which is followed by a blanching and wrinkling of the skin, showing great contraction of the blood vessels has taken place. If this argument is used in an endeavor to have the douches employed properly, little or no difficulty will be experienced in having the methods of taking a douche carried out properly.

Erosions of the cervix not due to laceration respond very quickly to the application of 3 per cent. solution of lactic acid, applied every third day.

Constitutional derangements should be treated in accordance with the disease. Most of them, however, demand tonics containing some form of iron, plenty of fresh air and out-of-door exercise.

2003 McCulloh street.

William H. Welch, M.D., President.
Marshall Langton Price, M.D., Secretary.
Howard Bratton, M.D. Louis A. Griffith, M.D. James Bosley, M.D.
Douglas H. Thomas, Jr. Hon. Isaac Lobe Straus.

Under the Direction of the Secretary of the State Board of Health

REGISTRATION OF DEATHS IN MARYLAND.

LOCAL REGISTRATION OFFICE FOR GARRETT COUNTY SUPERSEDED.

At the regular monthly meeting of the State Board of Health, held April 14, an order was passed superseding the local registration office for Garrett county. The Legislature of 1906 gave the board this power under an act approved March 22, 1906, Title, "An Act to Add a New Section to Article 43 of the Code of Public General Laws, Title, Health; Sub-Title, Vital Statistics." The essentials of this act are included in Section 18 A, which reads as follows:

Section 18 A.—"Whenever the State Board of Health shall have reason to believe that any local registrar of vital statistics does not make full and complete records, as required by the provisions of this act, the State Board of Health shall take charge of and shall operate the local registration office for a period of three months, after having given to the local board of health not less than 30 days' previous notice in writing, and the State Board of Health shall pay the expenses incurred on account of the local registration office for the time being; provided, that the registration during that period shall be less than 10 per cent. in excess of that recorded by the local registrar in the corresponding three months of the year next preceding; and provided, futher, that in case the registration by the State Board of Health shall exceed by 10 per cent. or more the registration of the local registrar in the corresponding three months of the year next preceding, the expenses shall be paid by the local board of health."

The following letter, addressed to Messrs. Asa B. Friend, A. Clyde Smith and Otho Fike, the Board of County Commissioners for Garrett county, sufficiently explains the reasons for the board's taking this action.

Office of the State Board of Health,
10 South street, Baltimore. April 14, 1909.

Dear Sir—At the regular monthly meeting of the State Board of Health, held today, it was ordered that the Secretary be instructed to notify the local board of health for Garrett county that the office of the local registrar for vital statistics in Garrett county will be superseded by the State Board of Health on the 17th day of May, 1909, under the provisions of

Chapter 124 of the Acts of the General Assembly of 1906, of which I enclose a copy.

The State Board of Health, previous to passing this order, has exhausted every other means of securing prompt and accurate returns of vital statistics for Garrett county. The returns of vital statistics for Garrett county which are required to be in the State Registrar's office on the 10th day of each month following that in which the records are made, are now four months in arrears; namely, December, January, February and March. Garrett county has shown marked indifference in the recording of its vital statistics ever since the act requiring the return of vital statistics to the State Registrar's office was passed in 1898, and so far from showing any improvement, it has actually retrogressed.

The Board has been unable to fix the responsibility for this condition between the County Registrar and the County Board of Health, and for this reason, after exhausting all other remedies, has decided to supersede the local registration office.

The act providing for the registration of vital statistics in Garrett county is not devised or intended by Legislature to be for the protection or benefit of Garrett county alone, but for that of all citizens of this State. Under present conditions, Garrett county is a menace to all remaining portions of the State on account of lack of receipt of prompt data concerning deaths and infectious diseases by the State health authorities.

Under the provisions of the statute cited, the State Board of Health will be required to pay the expenses of conduct of the local registration office for three months, unless the registrations are 10 per cent. or more in excess of those of the corresponding three months of the previous year recorded by the local registrar for Garrett county, otherwise the expenses must be met by the Board of Health of Garrett county.

I should be glad to hear from you or your board at any time relative to this matter. Very truly yours,

MARSHALL LANGTON PRICE, Secretary.
State Registrar of Vital Statistics.

It is possible that similar action will be taken in the future in other counties where registration is notoriously weak.

HISTORY OF REGISTRATION IN MARYLAND.

The first act intended to provide for the registration of births, marriages and deaths was passed March 24, 1865. This act required "that the Clerks of the Circuit Courts of the several Counties, and the Court of Common Pleas of Baltimore City" keep special registers of births, marriages and deaths, and record therein specified data concerning them. If this law proposed to secure accurate records, its purpose was defeated, as such few records as may have been collected after the passage of the act were of little less value than the paper upon which they were written.

A second law was passed April 14, 1880, and created the office of State Superintendent of Vital Statistics. This feeble law was equally feebly executed, and there are now no existing records collected by the State Superintendent's office.

Chapter 312 of the Acts of 1898 created the present State Registrar's office. This law, while a good one, in its main provisions omitted one vital feature, which has been found, by experience, to be necessary everywhere where correct, prompt, and accurate returns are required. This is the burial-permit clause.

BURIAL PERMIT.

The burial-permit clause, which was inserted with other amendments to the Act of 1898, was passed by the General Assembly

in the year 1900, and provides "that no interment of any dead body of any human being, or disposition thereof, shall be made in any tomb, vault or cemetery without a permit from the registrar or sub-registrar of the district where the deceased person died." The burial-permit clause is the only means of securing prompt, accurate and complete returns of death. To the necessity and value of these returns I will later revert.

REGISTRATION OF DEATHS IN THE CIVIL DIVISIONS OF MARYLAND.

The national death rate per 1000 as calculated by Dr. Ogle in 1881 was for England and Wales, 18.88; Austria, 18.82; Switzerland, 19.38; Germany, 19.21; Holland, 20.18; France, 21.31, and Italy, 19.33. The general death rate for the United States during 10 years was calculated as 17.04, but the returns upon which the latter figure was based are not as complete as in the European countries. It can be safely assumed in Maryland that in any civil division returning a death rate below 17, the death returns are defective. In any returns below 14, bad, and any returns below 10, very bad. Only two of the civil divisions in Maryland give death rates over 17. These are Baltimore city, 19.45; Baltimore county, 18.03. Four other counties have death rates exceeding 14—Kent, Prince George's, Talbot and Washington. Those having death rates below 14, but over 10, are Allegany, Anne Arundel, Calvert, Carroll, Cecil, Charles, Dorchester, Frederick, Harford, Howard, Montgomery, Queen Anne's, Wicomico and Worcester. In the rear of the procession are Caroline, Garrett, Somerset and St. Mary's. Garrett and St. Mary's have the distinction of the lowest place in the list. Garrett county in 1906 reported a mortality of 7.16 per thousand; St. Mary's 6.24.

A CHAIN IS NO STRONGER THAN ITS WEAKEST LINK.

Modern sanitarians have no hesitation in saying that no serious pestilence will ever again gain foothold in any State which posesses an efficient sanitary organization. The real inner line of defense against pestilence is the burial-permit law, though not one in a thousand of the citizens of this State recognize or realize this fact. As a consequence, those civil divisions in which vital statistics are persistently neglected are a constant menace to the remaining portions of the State. The body politic as well as the human body has its *"locus minoris resistantiae,"* which it cannot ignore any more than the individual, unless it wishes to court disaster.

THE BURIAL PERMIT AND PERSONAL LIBERTY.

In Virginia we have recently had to witness the painful spectacle of a good registration law being defeated largely through the organized efforts of the undertakers of that State. Among other things we have to be thankful for in Maryland is that our undertakers have passed far beyond that stage in enlightenment and intelligence where they value their personal convenience higher than the public welfare.

Every advance in civilization has been gained through infrac-

tion on "personal liberty." We can imagine one of the older barons growing red in the face with virtuous indignation at the passage of a law preventing him from killing and robbing his peasantry. While we are not familiar with ancient English, even after a course of J. Stanley Wyman, we may take the liberty of paraphrasing the Baron's remarks as follows: "This here law ain't no good. It's nothing but a fad. I guess what was good enough for my father and grandfather is good enough for me. This law goes agin my personal liberty." If the baron and his friend are still unconvinced, let us take a look at the good old days as they actually were.

A RETURN TO THE GOOD OLD DAYS.

The quotation is from *De Foe's Journal of the Plague Year.*

"We were easy again for about six weeks, when, none having died with any marks of infection, it was said that the distemper was gone, but after that, I think it was about the 12th of February, another died in another house, but in the same parish and in the same manner. This turned the people's eyes pretty much toward that end of the town, and the weekly bills showing an increase of burials in St. Giles' parish more than usual. * * * From the time that the plague first began in St. Giles' parish, it was observed that the ordinary burials had increased in number considerably; for example, from December 27 to January 3, St. Giles 16, St. Andrews 17; January 3 to January 10, St. Giles 12, St. Andrews 25; January 10 to 17, St. Giles 18, St. Andrews 18; January 17 to 24, St. Giles 23, St. Andrews 16; January 24 to 31, St. Giles 24, St. Andrews 15; January 30 to February 7, St. Giles 21, St. Andrews 23; February 7 to 14, St. Giles 24, whereof one of the plague. The like increase of the bills was observed in the parishes of St. Brides and St. James. * * * Besides this it was observed with great uneasiness by the people that the weekly bills in general increased very much during these weeks, although it was at a time of the year when usually the bills are very moderate. The usual number of burials within the bills of mortality for a week was from about 240 or thereabouts to 300. The last was esteemed a pretty high bill, but after this we found the bills successive increasing as follows: December 20 to 27, buried 291; December 27 to January 3, 349; January 3 to 10, 394; January 10 to 17, 415; January 17 to 24, 474. This last bill was really frightful, being a higher number than has known to have been buried in one week since the preceding visitation of 1656."

HISTORY REPEATS ITSELF.

So much for the good old days, when people did not make impertinent inquiries into the cause of death and other matters of which they had no concern. The moral of this story we leave to the reader, and ask him to make a study of those States where cholera obtained a foothold in the sixties, and of those Southern States which have been successively visited by yellow fever in recent times.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

JAMES BOSLEY, M.D., Commissioner.
C. HAMPSON JONES, M.D., Asst. Commissioner.
THOS. L. RICHARDSON, M.D., Asst. Commissioner, Quarantine.
J. W. M. KIGER, Secretary.

Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

THE PREVENTION OF DIPHTHERIA.

THE health of the State being indubitably its greatest natural resource, its conservation obviously becomes of prime importance. This devolving upon the various health authorities, national, State and municipal, it is incumbent upon them to use every legitimate means to protect the public against disease.

In the crusade waged against diphtheria the result has been so far from discouraging that a brief survey of the methods employed by the Subdepartment of Health seems not inopportune.

The necessity of isolating the patient and quarantining the house is so apparent and the benefit accruing to the community from such measures so evident, that mere mention in passing is all that is requisite.

The same may be said with equal truth of the fumigation of the premises following recovery of the patient.

It seems germane to the subject, however, to state that the efficiency of the fumigation is determined by placing in the room a cloth previously saturated with a living culture of the staphylococcus albus, afterward inoculating it into bouillon to discover if the organism is still viable.

It is much to be regretted that when this is the case we are unable to repeat the disinfection, because the force at our disposal would be numerically inadequate to cope with the conditions arising from any further augmentation of their duties.

Despite this the control cultures subserve a very useful purpose by removing temptation; this is said without intention of inferring that without surveillance the fumigators would neglect their work.

In the six years from 1902 to 1907 inclusive, 14,480 houses have been fumigated; 10,438 control cultures returned from these were negatitve, a percentage of 72.0+; 2483 or 17.1+ per cent. were positive; the remainder either were not sent to the department or were lost in the mail.

Next to thrust itself upon us for consideration is antitoxin, a

doubly useful addition to the physician's armamentarium, serving as it does to decrease both the diphtheria morbidity and mortality.

Since 1898 2681 people in infected houses have been immunized with 1000 units each of antidiphtheritic serum, issued by the Health Department; of these but 9, or 0.3 per cent., developed the disease, from which it is readily perceived that the usefulness of antitoxin in preventing the spread of diphtheria can hardly be exaggerated.

It should be borne in mind, nevertheless, that, though immunizing the contact, it does not hinder him from harboring the B. diphtheriae; thus we should but be adding another menace to public health were this not obviated by requiring negative cultures from all inmates of an infected house before dinisfecting the premises.

Although a digression from the subject, the subjoined tables are so interesting that their insertion appears excusable:

CASES OF DIPHTHERIA TREATED WITH ANTITOXIN FURNISHED BY THE HEALTH DEPARTMENT FROM JANUARY 1, 1898, TO DECEMBER 31, 1907.

Cases.	Deaths.	Mortality.	Extent of Membrane.				Complications.					Cases Immunized.		
			Tonsils.	Tonsils and Pharynx.	Nasal.	Larynx.	Broncho-pneumonia.	Nephritis.	Sepsis.	Paralysis.	Cardiac Paralysis.	Total.	Successful.	Diphtheria Developed.
4678	457	9.7+	1931	1869	369	880	46	47	30	66	89	2681	2672	9

Cases in which diphtheria bacilli were found..... 2365
Deaths resulting 201
Percentage of mortality..... 8.4%

Cases of laryngeal diphtheria. 896
Deaths resulting 228
Percentage of mortality.....25.4%

MORTALITY AFTER USE OF ANTITOXIN ACCORDING TO DURATION OF DISEASE AT THE TIME OF INJECTION.

	1st Day.	2d Day.	3d Day.	4th Day.	5th Day.	6th Day.	7th Day.	8th Day.	10th Day.	Unknown.
Cases....	1478	1578	819	324	141	51	95	11	17	30
Deaths...	71	124	84	49	32	10	20	4	10	10
Per cent.	4 7+	7.8+	10.2+	15.1+	22.6+	19.6+	21.0+	36.3+	58.8+	33.3

Mortality of cases not treated with antitoxin (Welsh), 42.1 per cent.
Average mortality in Baltimore for four years (1894, 1895, 1896, 1897) prior to use of antitoxin, 55.18 per cent.

The purport of these tables is so evident as not to require elucidation. However, attention may be called to the low mortality in cases treated with antitoxin, to the great fatality in laryngeal diph-

theria and to the danger of delay in injecting antidiphtheritic serum as depicted in the last table.

Before passing to the next topic the unfortunate habit of some physicians, who, though using antitoxin supplied by the department, fail to send in cultures, cannot but be diplored, inasmuch as this renders unavailing the efforts of the Subdepartment of Health to obtain accurate statistics as to the mortality of diphtheria when thus treated.

The milk supply of the city is protected by the "ordinances of the Mayor and City Council," by which the Commissioner of Health is empowered not only to prevent its sale from premises infected with diphtheria, but also to enjoin dairy farms so infected from shipping milk into Baltimore.

In the preceding communication attention was called to the important part played by "carriers" in the propagation of this malady, and stress was laid upon their partial control as a factor in the remarkable and gratifying decline in the diphtheria morbidity.

Nevertheless, as, in spite of all these precautions, between 800 and 900 cases have been reported annually for the past two years, it is incumbent upon the department to discover the source of the infection.

Inasmuch as diphtheria begins to increase shortly after the schools open, in view of the fact that an epidemic in Baltimore continued until "carriers" were eliminated from the schools, and as it has been the experience of Ward and Henderson[1], Vervoort[2] and others that the spread of the disease could be stopped by excluding "contacts" from these institutions, therefore the supposition that bacillus "carriers" in the schools are the chief foci of infection at present appears justifiable.

About two months ago the department started to take cultures from school children; since then 748 throats have been cultured, of which 4.4 per cent. harbored micro-organisms morphologically resembling the Klebs-Löffler bacillus.

From all this it may be argued that the sanitarian cannot hope to further diminish the incidence of diphtheria until all "contacts" are excluded from the schools.

Although this will naturally meet with the antagonism of those individuals who, either from selfishness, ignorance or skepticism —the three hand-maidens of disease—and with infringement upon their personal liberty as their excuse, oppose the health authorities upon all such occasions. Nevertheless, as such a measure would be beneficial to society as a whole, and as the exclusion from school would be of but short duration if local applications of antitoxin be used, such a ruling by the Health Department would be justified.

F. W. Hachtel,
First Assistant Bacteriologist.

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[1] *California State Jour. Med.*, August, 1907.
[2] *Hyg. Rundsch.*, 1908, XVIII, 1459.

MARYLAND LUNACY COMMISSION.

ARTHUR P. HERRING, M.D., Secretary.
HENRY M. HURD, M.D. HUGH H. YOUNG, M.D. JOHN D. BLAKE, M.D.
R. MARKLEY BLACK, M.D. ATTORNEY-GENERAL ISAAC LOBE STRAUS, ex-officio.

This Department is Under the Direction of the Secretary of the Commission

EXTRACT from a letter written by Attorney-General Isaac Lobe Straus, and read at the public meeting for State Care at McCoy Hall, January 20, 1909:

"I conceive first that there is not only a duty, but an imperative duty of the highest obligation upon the State with respect to its defective or insane inhabitants. This duty is imposed by the paramount law of humanity. This law exacts of the State the exercise of its fullest powers to protect, ameliorate and care for those who are unfortunately afflicted with mental or nervous malady, and whose means are too limited to enable them to provide care for themselves.

"But this duty is imposed not only by considerations of sympathy and humanity, but by other considerations as well. It is of the highest moment that the people of the State and each succeeding generation thereof be preserved in the fullest degree possible of sanity and health. The *safety*, the *morals*, the *wealth*, the *order*, the *progress* and the *general welfare* of our *whole people*, not only at the present time, but in the future, are connected intimately and considerably with this subject. From every point of view appertaining to the public good, therefore, the State should be watchful and active in the thorough discharge of this ineffably important obligation.

"I shall not, in this letter, enter into details. I am now at work upon the examination of the various statutes of the leading countries of the civilized world, including the enactments in the several States of our Union, which have been adopted with a view of discharging in the most perfect way this vital State function, with a view of preparing a thorough, modern, up-to-date measure, reflecting the best that experience, thought and expert skill have developed upon the subject, to be submitted for enactment to the next General Assembly. In this work, as you know, I am receiving the invaluable encouragement and aid of the members of the State Lunacy Commission, and I earnestly hope that we shall be able to perfect a measure which, when adopted, will put Maryland abreast, in point of *humanity, skill and wisdom, of any community*

in the Universe in the matter of caring for, protecting and improving the insane within its borders.

"I cannot express my impressions and feelings too strongly upon this subject, in respect to which I have written the above for the purpose of particularly and squarely defining the attitude of the Law Department of the State of Maryland with reference to a matter of such deep concern to all its citizens and fraught with such immense consequences to those who are to come after us.

"I would summarize my views upon the whole subject by saying in conclusion that the *duty of the State of Maryland to its insane is a cardinal, a supreme obligation to do all and everything without stint for their benefit that its financial resources possibly permit or enable it to do;* to exercise in their interests, through its public officials, every effort and labor they are capable of, and to put into effect all the means and resources at its command to perform most effectually this great debt to humanity, *this direct and immediate obligation to its people, and this noble duty to all the future.*"

The third meeting of the Maryland Psychiatric Society was held Thursday, April 22, 1909, at the Springfield State Hospital, at Sykesville. A special car conveyed the members of the Society, and a meeting was held immediately upon the arrival at the hospital, Dr. Clark presiding.

A paper was read by Dr. Edward N. Brush entitled "State Care of the Dependent Insane; What It Means, What It Involves; The Reasons and Necessity Therefor," which was discussed by Drs. Hurd, C. G. Hill, Flannery, Smart and Clark.

Dr. Herring, who was to present the report of the Committee on Classification, missed his train, and Drs. Dunton and Clark gave a résumé of this report.

Following this was a discussion during which Dr. Hurd mentioned the system of nomenclature now being formulated by the Maryland Medical Association, and Dr. Dunton made the motion that further action upon this report be deferred until the next meeting, and that the committee be continued, and that they be requested to report upon the new nomenclature.

The secretary referred to the recent bill formulated by the Baltimore Bar Association relative to expert witnesses, and suggested that some action be taken by the Society.

Upon motion by Dr. Hill, it was voted that further action be postponed until the next meeting, when a representative of the Bar Association should be invited to participate in the discussion.

Dr. Keating invited the Society to hold its next meeting at the Maryland Asylum and Training School for the Feeble-Minded, Owings Mills, Baltimore county, the last week in June, which invitation was accepted.

The meeting then adjourned, following which an inspection of the hospital was made, and a lunch was served before leaving for the train.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D., *Editor*

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NATHAN WINSLOW, M.D., *Managing Editor.*

BALTIMORE, MAY, 1909

PROGRESS IN 1908.

THE war against tuberculosis has proceeded with ever-increasing earnestness and skill. There is every prospect that this ancient scourge will soon be as completely under control in civilized communities as malaria or smallpox. States and cities are competing with each other in the completeness of their equipment for the repression of its contagion. Private philanthropy pours out its millions in hospitals for the cure of individual patients. The whole work is being put upon a systematized and permanent basis, and in every community specialists devoted entirely to the treatment of this disease have arisen. Preventive attention is now directed to certain periods in this lengthy disease in which alone it is especially dangerous to the community, and to certain conditions of life in which its contagion is greatly intensified. The elimination of bacilli during what are called the "closed stages" of the disease by urine and feces is fraught with very little danger to the community. "As a rule," says Dr. Flick in volume 1, series 19, *International Clinics,* "contagion begins with ulceration and lasts as long as broken-down tissue is given off." Sputum expectorated in the out of doors or carried on the feet or skirts from out of doors is not likely to infect anyone; in the close and the crowded room contagion may become so intense as to overleap the strongest barriers of personal resistance. At the Phipps Institute isolation of the advanced consumptive has given by all odds the best results toward lessening contagion in the community. This alone, if generally applied, would soon stamp out tuberculosis. The curative hospital for incipient cases (non-contagious) should be left for the present rather to private benevolence, and the State should devote its resources to the isolation of contagious cases in large sanitariums, which may later be used for cure of incipients.

During 1908 very interesting observations have been made in the use of Flexner's serum for cerebrospinal fever, which, if con-

firmed by future trials, will mark another great therapeutic triumph of modern medicine. Quite a number of physicians have used the serum, and had mortalities decidedly reduced from former figures. The serum is injected into the spinal canal after withdrawal of cerebrospinal fluid by lumbar puncture. These favorable results apply both to children and adults. The injection is worth trial even late in the disease. The Johns Hopkins Hospital reports 19 cases, at all stages and ages, treated thus during 1908, with 16 recoveries.

The advent of a new disease in our Southern States, formerly known as prevalent in certain parts of Europe, is an important event of the year. This disease, pellagra, is believed to be due to the use of corn mixed with corn smut, a fungus familiar to all country people. It is characterized by epigastric pain, nausea, vomiting, stomatitis and dysentery. Acute cases show emaciation, erythema, delirium, with perhaps death in a few weeks. Chronic cases have stomatitis, delirium and an indolent eruption like bad sunburn, which covers the exposed parts of the body. At times the disease is mild and self-limited; in certain epidemics the mortality is frightful. It is a summer disease, recurring annually. Treatment is by prophylaxis, tonics and quinine. It has not yet originated in Northern States, but Maryland physicians should be on the watch for it.

The typhoid bacillus carrier comes more and more into prominence as an agent in the spread of epidemics. He may or he may not knowingly have suffered from the disease. The statements as to this possible source of infection made recently before a city medical society by Professor Welch have been to some degree confirmed during the past year. A physician reports 76 cases of typhoid traced to a single dairy, one of the milkers for which proved to be a chronic carrier. Park estimates that 2 per cent. of convalescents from the manifest disease carry and disseminate bacilli for a greater or less time afterward. There is no known method of freeing the intestine or other part from the bacilli, so dependence must be placed on isolation of such persons, or at least protection of our food and water from them. Logically this suggests health-office supervision of all persons engaged in preparing food or drink for public use, with registration, perhaps, at the health office of all typhoid bacilli carriers discharged from hospitals.

Coming now to surgery, we find so strong an authority as Bloodgood venturing to question the "good science" of the recently

fashionable excision at sight of all enlarged (or alleged enlarged) tonsils. It is now questioned whether the enlargement it not as often due to the exit as to the entrance of poisons. As strictures upon operations upon enlarged tonsils and nasal hypertrophies involve "vested rights," we may believe that a surgeon of standing would not make them without plain scientific reasons, based upon researches of value, to which he gives references.

It is gratifying to observe a plea for an alliance between psychology and surgery. It has been put forth by Bloodgood in his review of surgery contributed to the above-mentioned number of *Clinics,* on which these editorial remarks are mainly based. He urges that while routine management of patients before and after operation may suffice in most cases, a more careful study of the feelings and disposition of certain other patients would greatly promote their recovery.

In private conversation this view is frequently expressed. Unnecessary terrors to many minds attend hospital treatment. The placing of desperately ill or delirious or dying patients in the same ward with convalescent patients or those awaiting operation is brutal and inexcusable, yet it is sometimes perpetrated in even our best hospitals. One patient may be thrown into panic by a custom which does not affect others. A lady told the writer that the most terrible memory of her operation was the strapping down of her arms and legs and body to the anesthesia table. It made her feel that some awful struggle was anticipated during the operation.

The soothing of the patient's fears, whether by the consolations of religion or otherwise, is in some quarters much neglected. The writer was told once by a surgeon of prominence that he always expected bad results when a patient, just before the operation began, said she expected to die. There is often, too, a lack of leisurely sympathy shown to patients during convalescence, and the want of occupations and entertainment in the long wards during recovery is itself a proof of psychological ignorance on the part of the staff.

Readers are familiar with the haste with which patients are now gotten out of the ward into the sun-porch. To some it will be news that after laparotomy as soon as the wound is closed the patient is allowed to sit up and move freely about in bed.

The ebbing of the operative wave in mild appendicitis is perhaps announced by the statement of Sonneburg, the pioneer, that in doubtful cases, safe under hospital care, he finds castor oil of diagnostic value.

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BALTIMORE

Medical Items.

Dr. Osler arrived in New York April 29 and will attend the dedication of the new medical library in May.

The Interurban Clinical Club held its ninth annual meeting at the Johns Hopkins Hospital April 3 and 4.

Several cases of smallpox were reported at the House of Correction, but the epidemic is now under control.

J. H. Mason Knox, M.D., was married to Miss Marion Graham Bowdoin at St. Paul's Episcopal Church, April 28.

Dr. Rufus I. Cole has been appointed director of the new Rockefeller Hospital in New York. Dr. William H. Welch is president of the board of directors.

The bronze medals which will be offered to the members of the Faculty at the dedication of the library have been received and are now in the hands of the committee in charge.

The engagement has been announced of Dr. John Robert Abercrombie, University of Maryland, '95, and Dr. Anna D. Schultze, Woman's Medical College, '08.

At a recent meeting of the Senn Club it was decided to perpetuate the memory of Nicholas Senn and to bring before the public, lay and professional, the valuable services rendered by Dr. Senn. The means to be employed for this purpose will be decided later.

The marriage of Dr. Robert Taylor Miller, Jr., of Cincinnati, Ohio, former resident surgeon of Johns Hopkins Hospital, and Miss Mary Edes Hooper of Cambridge, Mass., took place on April 13. Dr. Miller is succeeded at the Johns Hopkins Hospital by Dr. John W. Churchman, who graduated there in 1903.

The Conference on Charities and Corrections is making arrangements for a large meeting in the fall. The section on defectives has been appointed as follows: Arthur P. Herring, M.D., chairman; Drs. Frank Keating, William P. Spratling, J. Clement Clark, Adolph Meyer, Samuel J. Fort and Mrs. H. Finley. Other sections will be appointed later.

An examination for candidates for the Medical Corps of the Army, open to internes in hospitals and other graduates of medicine, will be held July 12. There will be a special examination at Fort McHenry if there are any applicants from this section. The salary for those who pass and receive appointments will be $2000, with the rank of first lieutenant, and they will be eligible for promotion to captain after three years, with a salary of $2400.

The 12th annual meeting of the Medical Library Association will be held in Washington and Baltimore during the week of the meeting of the Association of American Physicians. The first session will be held at the library of the Surgeon-General's office on the afternoon of May 12, and on May 13 the members will go to Baltimore for the dedication of the new library building of the Medical and Chirurgical Faculty of Maryland, when Dr. Osler will deliver the oration.

The twenty-third annual report of the State Lunacy Commission, which has just been issued, reflects much credit upon the commission. It is bound in orange, with black lettering, and is well illustrated with views of the various institutions and almshouses through the State, and gives thorough details of the conditions throughout the entire State. The map of the State, showing by a unique color scheme the conditions in the various counties, is exceptionally good. The report is the most elaborate and complete that has ever been issued by the commission. A copy of this report will be sent to anyone interested upon addressing the commission.

DEATHS.

Edward Pontney Irons, M.D., University of Maryland, '65, at his home in Baltimore, April 3, aged 84 years.

Charles Lewis Buddenbohn, M.D., Washington University, Baltimore, '73, at his home in Baltimore, on April 7, aged 58 years.

Edgar T. Duke, M.D., University of Maryland, '91, at his home in Cumberland, Md., of pneumonia, April 13, aged 43 years.

Hugh A. Maughlin, M.D., at his home in Baltimore, April 17, of pleurisy.

George G. Farnandis, M.D., University of Maryland, '52, at his home in Baltimore, April 4, aged 80 years.

ERUPTIONS

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Book Reviews.

INTERNATIONAL CLINICS: A QUARTERLY OF ILLUSTRATED CLINICAL LECTURES AND ESPECIALLY PREPARED ORIGINAL ARTICLES BY LEADING MEMBERS OF THE MEDICAL PROFESSION THROUGHOUT THE WORLD. Vol. I. Nineteenth Series, 1909. Philadelphia and London: J. B. Lippincott Company. 1909.

THE COMMONER DISEASES OF THE EYE. By Casey A. Wood, M.D., C.M., D.C.L., Professor of Ophthalmology, Northwestern University; Ophthalmic Surgeon to St. Luke's Hospital and Wesley Hospital, Chicago; Consulting Ophthalmologist to Cook County Hospital and Passavant Memorial Hospital; ex-Chairman of the Ophthalmic Section, American Medical Association; formerly President of the American Academy of Medicine and of the American Academy of Ophthalmology and Otolaryngology; Mitglied der Ophthalmologischen Gesellschaft, Etc.; and Thomas A. Woodruff, M.D., C.M., L.R.C.P., London, Ophthalmic Surgeon, St. Luke's Hospital and St. Anthony de Padua Hospital, Chicago; Member Ophthalmic Section American Medical Association; Fellow of American Academy of Medicine; Fellow of American Academy of Ophthalmology and Otolaryngology; Mitglied der Ophthalmologischen Gesellschaft, Etc. W. T. Keener & Co. Price, $2.50.

The authors of this book have in view the presentation of a work on the more common diseases of the eye. It is intended to help the student of medicine to acquire the amount of knowledge in that special branch demanded by the curriculum of the modern medical school, and also to furnish the general practitioner with sufficient data to enable him to make a diagnosis of the most prevalent diseases of the eye. The writers make no pretense to embody in this small volume all the information expected of a book of reference. Not a little attention has been devoted to treatment, and we think that, on the whole, the therapeutic measures have been conservatively given. We must, however, take exception to recommending to students and general practitioners the use of nitrate of silver in solutions as strong as 4 per cent. (p. 236). If the eye, even in ophthalmia neonatorum, be properly cleansed, all the advantages of the silver salt may be gotten from a 2 per cent. solution without the risk of damage to the cornea by a stronger solution. Unlike the former editions, there is a chapter by Dr. F. Brawley in the present one on affections of the nose and the accessory cavities in their relation to diseases of the eye.

The matter is well classified, and we are sure the third edition will be as well received as its predecessors.

INTERNATIONAL CLINICS: A Quarterly of Illustrated Clinical Lectures and Specially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Vol. I, Eighteenth Series. Philadelphia: J. B. Lippincott Company. 1908.

There are quite a number of interesting papers in the present volume of this well-known quarterly. The first that strikes our eye is one on "Some Clinical Aspects of Blood Coagulation," by Dr. Boggs of the Johns Hopkins. He describes the coagulometer of Brodie and Russell as modified by himself. A blood drop caught on the under side of a cover slip is placed in a moist chamber and a very gentle blast of air from a glass tube is blown upon the side of it from time to time until the "radial elastic motion" is observed—as of a rubber ball pressed in at one point and released. The coagulation time is counted from the moment the blood appears at the surface of the

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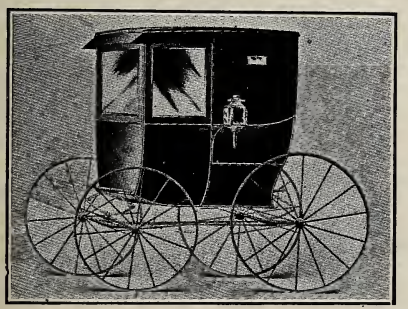

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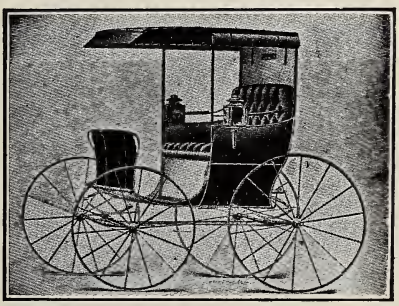

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wound until the drop gives this apperance of elasticity when the current of air is blown upon it. The disease conditions in which the coagulability of the blood is found to be increased or decreased are discussed one by one, particularly with reference to the administration of the calcium salts—the lactate by mouth, about a dram in 24 hours, or the acetate subcutaneously—the best remedy in deficient coagulability. In hemophilia, in oozing wounds or ulcers and in hematuria good results have been attained; in certain other conditions due to serous effusion from the blood vessels and to general lack of blood tone great relief has been obtained, as in hyperhydrosis, severe urticaria and other skin rashes.

There is a very interesting article on paratyphoid fevers by Dr. Wilson of Philadelphia, and another on fixation abscesses by Dr. Jules Thirroloix of Paris, in which he describes the recovery of a patient from a condition of hopeless septicemia after an artificial abscess had been produced by the hypodermic injection of turpentine.

The book closes with a review of the progress of medicine and surgery during the year 1907.

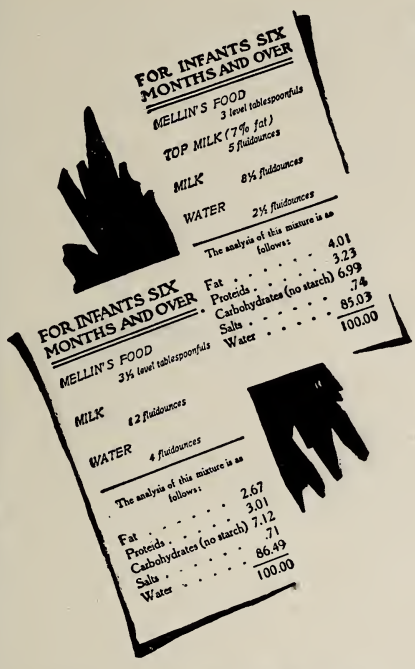
A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science. By Henry S. Munro, M.D. Second Edition. Price $3. St. Louis: C. V. Mosby Medical Book & Publishing Co. 1908.

It is very difficult to value a book of the character before us. The author seems to have been for a considerable number of years a traveling hypnotist; he states also that he has used hypnotism in a large number of cases in private practice with most remarkable effect, and cites a number of these cases. A large part of the book is given up to a dissertation on hypnotism and various phases of personality. Such a dissertation would, of course, be quite incomplete without a chapter on the now fashionable "subconscious self."

Many shrewd suggestions in regard to the mental attitude of a doctor toward his patients, some of which might prove very helpful to a thoughtful physician, may be culled from the book. We would give a higher value to the work if we were quite sure that the professional hypnotist's accustomed subordination of truth to therapeutic ends may not have been extended also to the needs of possible purchasers for psychic instruction, and if we had not a lurking suspicion that the pursuit of hypnotic methods had a blunting effect upon diagnostic acumen. The author has a strange way of printing parts of sentences on each page in very heavy type; without any reason, so far as we can see, except the hypnotic influence which such recurring causeless emphasis might have upon a reader.

Pathological Technique. By F. B. Mallory, M.D., Associate Professor of Pathology, Harvard Medical School, and J. H. Wright, M.D., Director of the Pathological Laboratory, Massachusetts General Hospital, Fourth Revised Edition, Octavo of 480 pages. Illustrated. W. B. Saunders Company. 1908. Price, cloth, $3 net. Baltimore: Medical & Standard Book Company

This book, representing the best methods of the Harvard Medical School laboratories, has been received with well-deserved favor and is the standard textbook in our own city. The present new edition has been very carefully brought to date, with the omission of some older methods found unsatisfactory and the addition of a number of well-tried new ones. In Part II the additions are Zinsser's Anerobic method for plate-cultures, three new meth-



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Essentials of Medicine. By Charles Phillips Emerson, M.D. Philadelphia: J. B. Lippincott Company. 1909.

Among the many recent additions to our textbooks the present volume deserves its designation for "Students, Nurses and General Reader" more properly than is the case with any of the others. The author shows not only his large experience in teaching, his wide scope of observation, but also considerable skill in illustrating by simple diagrams many otherwise not easily explainable conditions.

The manner of prefacing in simple language the pathologic changes in organs by a consideration of the normal physiologic function and the interrelation of organs is highly instructive and easily understood even by a non-medically trained mind.

The chapters on the blood vessels, the heart, the respiratory organs, and especially on the kidneys, are particularly good and well adaptable to elementary teaching.

The reviewer gladly recommends this useful book to those for whom it is intended as one of the few very readable technical books.

Therapeutics of Radiant Light and Heat and Convective Heat. By William Benham Snow, M.D. New York: Scientific Authors' Publishing Co. 1909. Price $2 net.

Under the imposing title, Convective Heat, the author groups the hot-water bag, the poultice, antiphlogiston and its imitations, hot baths, the hot-air bath, the hot internal douche, etc., each of which has from time to time been exploited as a fad, then gradually has found its limitations and its true uses. Just what will be the therapeutic fate of radiant light and heat is not yet apparent, but it is very interesting to know what results are now claimed and to watch the ingenious appliances devised for the clinical testing of their powers. In the attractive little book before us a lucid and careful discussion of each subject is given, with numerous drawings and photographs of essentials.

Wilshire Editorials. By Gaylord Wilshire. New York: Wilshire Book Co. Price $1.

A collection of Wilshire thoughts, statistics and contentions in favor of Mr. Wilshire's theories of socialism, which, we must confess, are about as satisfactory as other panaceas given out by doctors of this school. That "the time is out of joint" cannot be denied, but that the divergent prophets of socialism will "set it right" is doubtful. Yet there are many clever hits at unrecognized truth in the little book and many keen stabs at the wealthy gentlemen who own us. The diagnosis that America is suffocating with its

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own wealth rather grieves us, for Mr. Wilshire shows therein great undeveloped clinical acumen, unhappily lost to medicine.

Parsimony in Nutrition. By Sir James Crichton-Browne, M.D., F.R.S. New York: Funk & Wagnalls Company. 1909. Price 75 cents net.

This excellent little book is devoted to a refutation of the nutrition theories of Fletcher and Crittenden, which have recently supplied material for medical gossip. Mr. Fletcher, after years of chronic dyspepsia, hit on a fad for chewing his food, and, developing it into a system (so many chews to a mouthful), declared himself cured thereby. Professor Crittenden developed the scientific basis of the thing, holding that long chewing is chiefly of value in reducing the consumption of proteids, of which, he thinks, we eat twice too much.

Dr. Browne refutes these theories by facts of history, of race experience and of animal physiology. Our own belief is that Fletcher's recovery was due to his transfer of his attention from his stomach to his mouth, giving the stomach a chance to do its work in peace.

Clinical Diagrams. By James C. Wilson, M.D. Philadelphia: J. B. Lippincott Company. Price 25 cents for a set of 25.

Accurate, permanent and simple records are as essential to professional as business success. The diagrams of Dr. Wilson furnish the general practitioner with a simple, rapid, accurate and permanent method for preserving their clinical findings.

J. B. Lippincott's Catalogue of Medical and Surgical Publications. 1909.

This catalogue has many attractive features. The contents are grouped according to subjects, instead of being located helter-skelter, here and there. There is also an index of the authors arranged alphabetically. This announcement will be found of immense benefit to those dealing with Lippincott's.

Constipation and Intestinal Obstruction. By S. G. Gannt. Philadelphia: W. B. Saunders Company. $6 net. 1909.

In this book Gannt brings together a wealth of personal experience in diagnosing and treating constipation and obstipation. He lays stress upon non-medicinal measures, such as hot baths, massage, electrotherapy and operative procedures. The illustrations are numerous and timely, and simplify the text materially. Either specialist or general practitioner will derive much benefit and information by a careful perusal of its pages.

Epoch-Making Contributions to Medicine and Surgery and the Allied Sciences. By C. M. B. Camac. Philadelphia: W. B. Saunders Company. $4 net. 1909.

This book consists of a series of the originals of the epoch-making contributions to medicine and surgery, and is designated to stimulate interest in those men who have popularized such boons to humanity as anesthesia, antiseptics, vaccination against smallpox, etc. A careful perusal of these writings will show how careful the original investigations were. Indeed, our knowledge in many instances today not being more than that gleaned from the original contribution.

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ON THE PREVENTION OF TYPHOID FEVER.

By C. W. G. Rohrer, B.Sc., M.D., M.A.,

Associate Professor of Pathology and Assistant in Genito-Urinary Diseases, College of Physicians and Surgeons, Baltimore.

READ AT THE JOINT SESSION OF THE WASHINGTON COUNTY AND FREDERICK COUNTY MEDICAL SOCIETIES, HELD AT BRADDOCK HEIGHTS, FREDERICK COUNTY, MD., AUGUST 26, 1908.

Of the four continued fevers—typhoid, typhus, relapsing and simple continued fever—so graphically described by Murchison, typhoid fever is the only one ordinarily prevailing in this latitude. As my distinguished teacher, the late Prof. Thomas S. Latimer, used to tell his classes, "In this climate a continued fever of 10 days' duration is invariably typhoid."

Typhoid fever, like tuberculosis, is both infectious and contagious. By "infectious" we mean that typhoid fever is due to a specific germ, namely, the typhoid bacillus. By "contagious" we mean that typhoid fever is transmissible by contact. The typhoid bacillus was discovered by Eberth in 1880. Prior to the discovery of the specific germ the spread of the disease was a matter of mystery, or at least of speculation. Today it is known that the disease is spread only by the transmission of the specific organism from the sick to the well.

Every case of typhoid fever comes from a pre-existing case of typhoid fever. This feature in the clinical history of the disease, like Harvey's dictum, *Omne vivum ex ovo*,[1] or Virchow's famous aphorism, *Omnis cellula e cellula*,[2] is so well recognized that it has almost become axiomatic. The pre-existing case may be of recent or remote date, oftener recent. Accepting this fact as a working basis, it is perfectly obvious that an essential feature in the prophylaxis or prevention of typhoid fever is the destruction of the typhoid bacilli, or, at any rate, a debarring of living typhoid bacilli from the human system.

The principal port of entry of the typhoid infection is the digestive tract. The typhoid bacilli are swallowed and enter the intestine, attacking by preference the lymphoid tissue of the ileum, from which point they infect the entire body. The great primary source of all typhoid infection is formed by the bacilli-containing

[1] "All living things have proceeded from an egg."
[2] "Every cell has proceeded from a cell."

stools of a typhoid-fever patient. The most frequent secondary channels or "conveyors" of typhoid-fever infection are, first, water; second, milk; third, raw vegetables, and fourth, ice. Prof. George P. Whipple, in his excellent treatise on typhoid fever, discusses its transmission under the following seven headings:

(1) Epidemics due to infected water.
(2) Epidemics and outbreaks due to contagion, flies and general uncleanliness.
(3) Outbreaks due to infected milk.
(4) Outbreaks due to infected oysters and other shellfish.
(5) Outbreaks due to infected fruit and vegetables.
(6) Outbreaks due to infected ice.
(7) Outbreaks due to other causes, such as cream, ice cream and various foods.

The means of protection, or lines of defense, against the typhoid bacillus are:

(1) *Thorough Bedside Disinfection.*—Thorough disinfection of all typhoid-fever excreta was emphasized by Dr. Marshall Langton Price in the *Health Officers' Bulletin* for April, 1907. This applies with especial force to the feces, urine, pulmonary and cutaneous secretions, and the saliva. By carefully disinfecting the discharges from a typhoid-fever patient we strike right at the fountain head of the trouble. Typhoid-fever discharges carelessly disposed of may enter and pollute the water supply, or the bacilli are carried by flies to healthy persons.

For disinfecting fecal matter and urine a 5 per cent. solution of carbolic acid or a solution of bichloride of mercury, 1 in 500, is perhaps most serviceable. At least two hours' contact should be allowed. Urotropin is a most valuable urinary antiseptic, administered internally in five-grain doses three times a day for two or three days, or until typhoid bacilli are no longer found in the urine.

(2) *Systematic Examination of Water Supplies, Public and Private.*—Water is the main distributer of the typhoid poison. Even before the discovery of the typhoid bacillus the conspicuous connection between epidemics of typhoid fever and contamination of drinking water had been recognized clearly in many cases. An epidemic which occurred in a suburb of Berlin, Germany, in 1872 furnishes an instructive example. In a population of nearly 1000 inhabitants 80 persons were attacked by typhoid fever. Investigation showed that one badly contaminated well was the source of infection in the entire series of 80 cases.

The history of medicine records numerous other instances of the transmission of typhoid fever through the agency of polluted water supplies. The oft-quoted typhoid-fever epidemic occurring at Plymouth, Pa., in 1885 might be mentioned by way of illustration. In the town of Plymouth, with a population of 8000, so large a number as 1200 people were stricken with typhoid fever, all traceable to a reservior fed by an infected mountain stream.

A more recent water-borne epidemic of typhoid fever occurring in Maryland is worthy of note. Mount Savage, Allegany county,

is a small mining town on the Potomac River watershed. In July and August, 1904, an outbreak of typhoid fever occurred at Mount Savage, during which about 120 persons, mostly brickyard employes, were taken ill. The cause of this outbreak was proven to be water obtained from a spring known as the "brickyard spring," situated on the north bank of Jennings' Run, itself a heavily polluted stream. The brickyard spring had become grossly contaminated with fecal matter[1] from a typhoid-fever patient who lived in a cottage on a steep incline about 300 feet above the level of the brickyard. This epidemic was reported in full by Dr. Marshall Langton Price, secretary to the State Board of Health of Maryland (*vide* reference).

It has been determined that typhoid bacilli in water retain their vitality from one to six weeks; hence when typhoid fever is present in a community it is well to hear and heed the slogan of the Baltimore City Health Department: "Boil your drinking water."

Besides boiling the water, if the water supply be open to suspicion, the householder still has one or two other remedies—namely, distillation and filtration. Distillation is a safe but troublesome process and is rarely practicable. Filtration or artificial purification affords a reasonably safe protection against all water-borne diseases, among which typhoid fever is chief.

(3) *Milk Inspection.*—In the crusade against typhoid fever, next to purification of drinking-water supplies stands milk inspection. Milk is a universal food product and one which enters into the dietary of almost every family. We are turning, and rightly, toward milk as a second important cause of typhoid fever. Milk may become a vehicle of infection for typhoid fever in various ways. Milk is handled by a number of more or less uncleanly men and women, and usually drunk without cooking. Milk, once infected, forms an important culture medium for the multiplication of the typhoid bacilli. Typhoid bacilli may get into the milk.

(*a*) *At the Dairy Farm.*—The hands of the milker may convey the infection, the milk cans may be washed with water from a contaminated well, or infected water may be added to the milk. In June, 1890, an outbreak of typhoid fever occurred in the well-known town of Waterbury, Conn., during which there were upward of 50 cases and about 12 deaths. This outbreak was traced to one of the farms which supplied the milk. On this farm, prior to the outbreak, there had been three cases of typhoid fever—the farmer, his daughter and the farm hand.

(*b*) *At the Dairy.*—Milk, after it reaches the city dairy, is not only exposed to the danger of becoming contaminated by persons handling the milk, as at the farms, but also is exposed to chances of becoming contaminated indirectly by flies, dust, etc. Between August 20 and September 10, 1902, an outbreak of typhoid fever

[1]The following suggestive excerpt is from the Monthly Bulletin of the Iowa State Board of Health: "It is probably a safe estimate to say that if a thorough investigation were made into the source of water infection in communities in which typhoid fever is abnormally prevalent, two-thirds of the cases would trace back to feces-polluted drinking water."

occurred in Somerville, Mass. Among the 32 cases which developed, 30 took milk from the same milkman. Investigation showed that the farms from which the milk was derived were in excellent condition and that no typhoid fever existed upon them. The milkman had two sons, one of whom had typhoid fever during and just before the outbreak. This son drove one of the milk carts, and it was his duty to wash the cans. The evidence went to show that the infection occurred in some way at the milkhouse. The above illustration is, however, overshadowed by a milk outbreak of typhoid fever, numbering 157 cases, in Woodberry, Hampden district, Baltimore city. The entire 157 cases occurred in one man's milk route.

(*c*) *At the Grocery Store.*—In the studies of Rosenau, Lumsden and Kastle on the prevalence of typhoid fever in the District of Columbia there were found a number of instances in which the typhoid patients were being cared for in a room above or to the rear of the small grocery stores. In these stores milk was sold in small quantities, often as little as a cent's worth at a time, so that a quart bottle would be divided among several customers. The same hands that nursed the patient purveyed the milk.

(*d*) *At the Home.*—Milk, after being delivered to the house, may become contaminated by the hands of those caring for the sick or by flies, etc., and be the medium of conveyance of infection to other members of the household.

Although there are still differences of opinion as to the best way of dealing with the milk problem, the cause of pasteurization seems to be steadily gaining ground. But pasteurization must not be allowed to cover the neglect of inspecting the farms from which the milk supply is obtained and the dairies from which the milk is distributed.

Pasteurized milk is milk that has been subjected to heat, but not boiled. The temperature is raised to 160° F., or thereabouts, and allowed to remain for a few minutes, preferably 10 to 20 minutes, after which the milk is quickly cooled. Pasteurization effectually destroys the typhoid germ, as well as as most other germs which do not form spores.

(4) *Supervision of Food Supplies.* — Fruits and vegetables, oysters and other shellfish, and, in short, all raw-food products, may be included under this subtitle. Fruits and vegetables become infected through fertilization with so-called "night soil," by being washed in infected water and from being handled with unclean hands. Oyster culture should be regulated, and oysters and other shellfish obtained from suspected sources should be rejected. With regard to raw-food products, however, the responsibilities of physicians, health officers and householders in warding off typhoid fever may be summed up in the one word, "cleanliness"—clean premises, clean houses, clean water, clean food and clean persons.

The hygienic truths contained in the foregoing paragraphs are also applicable to the ice supply. Laboratory experiments have shown that the longevity of the typhoid bacillus decreases gradu-

ally as the freezing temperature is reached. Furthermore, in the natural process of freezing it has been found that about 90 per cent. of the bacteria in the original water are excluded or frozen out; that is, the ice which forms over a polluted water is only 10 per cent. as impure as the water itself. After two weeks or more the reduction in the number of typhoid germs amounts to 99 per cent. But the greatest danger from ice is in the handling during distribution. As Professor Whipple tersely states, "It is walked over in the icehouses, peddled through dusty streets, left on the sidewalk or floor, handled by servants, carted around in railroad stations and dumped by laborers with dirty hands directly into drinking-water tanks, and in many ways subjected to chances of infection."

(5) *Protection Against Flies and Other Means of Contagion.*—"Dirt breeds disease." One cannot tell how far this trite saying extends, but every year bears new testimony to its truth. Flies, which may often be the means of transmitting typhoid-fever germs, develop from eggs, and these eggs are very commonly laid in manure piles. Dr. L. O. Howard, the entomologist of the United States Department of Agriculture, states that the housefly prefers horse manure as a breeding place, although it may breed in other fecal matter. The common little fruitfly, found upon garbage, is also likely to be the means of conveying the typhoid bacillus. Drs. Firth and Horrocks, medical officers in the British army, and Professor Nuttall, formerly of the Johns Hopkins University, now of Cambridge University, England, made careful examinations of flies which had been permitted to crawl over stools from typhoid patients, and they were all found to contain the typhoid germs on their heads, legs, wings or bodies. It is estimated that one fly can carry as many as 100,000 bacilli. Experiments, though not wholly satisfactory, were made by Fischer to ascertain the longevity of the typhoid bacillus in the bodies of flies. Dr. Fischer states that he found them there 23 days after infection.

As a means of partial protection, at any rate, against flies, more attention should be given to screening the doors and windows of houses, public buildings, schoolrooms, restaurants, etc., and to the destruction of the breeding places of flies.

Another unsuspected source of contagion are the "walking typhoids" and bacilli carriers. An extreme instance, and one of the best known, is that of "Typhoid Mary," a cook in New York city, who, in good health and changing from place to place, left a trail of at least 28 typhoid cases in the houses where she had served until the facts were finally found out. Bacteriological studies made by the Health Department showed that she carries typhoid bacilli habitually in her intestine.

(6) *Antityphoid Vaccination or Inoculation.*—Dr. Almoth E. Wright of opsonic fame has made an antityphoid vaccine, and at the Army Medical School, Netley, he has, in conjunction with Dr. Semple, inoculated a number of persons. The patients' blood subsequently gave the Widal reaction, and they believe them to have

been rendered immune against typhoid fever. Dr. R. H. Fox of London recently discussed the theory and method of typhoid preventive inoculation, and urges missionaries and others working in tropical countries to have themselves inoculated. Dr. Fox considers that its utility is proved, and recommends that the vaccine be obtained from laboratories under the control of the discoverer. The duration of the immunity is probably not less than two years.

Conclusions.—(1) Typhoid fever is both infectious and contagious. The old dogma that typhoid fever is infectious but not contagious has slain its thousands and tens of thousands.

(2) Two-thirds of the cases of typhoid fever are due to infected water supplies, one-sixth of the cases are due to infected milk and the remaining one-sixth to flies, direct contact and other means of contagion.

(3) In the United States 50,000 persons annually are massacred by typhoid fever. In the State of Maryland alone nearly 500 deaths each year are due to typhoid fever.

(4) Every case of typhoid fever comes from a pre-existing case of typhoid fever; hence complete and thorough disinfection of all excreta is the first step toward prevention. By so doing we strike at the fountain head of the disease.

(5) "Food, fingers and flies" offers an alliterative explanation of much of the hitherto unaccounted-for typhoid fever—the so-called prosodemic typhoid.

(6) When typhoid fever is raging there is safety in boiled water, pasteurized milk and cooked vegetables and fruit.

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DEDICATION OF THE NEW LIBRARY BUILDING, BALTIMORE, MD., MAY 13, 14 AND 15, 1909.

WELL may the members of the Medical and Chirurgical Faculty of Maryland be proud of their new home, and long will they remember the days of their 111th annual meeting, during which the most prominent medical men of the country thronged to Baltimore to attend and take part in its dedication. Maryland has long prided herself on the fact that Baltimore was known world-wide as a great medical center and distinguished for the splendid curricula of her numerous medical colleges, and for the number of learned men who make this city their home, but rarely, perhaps never, has she seen at one time so great an assembly of the masters of medicine and surgery the guests of her citizens as graced this event.

The handsome building, erected at a cost of $90,000, was crowded continually by prominent members of the laity as well as physicians, and strong were the terms of commendation and praise for the diligence of the leaders of the Faculty and the perseverance of her representative members, whose untiring work made this Library an existing reality instead of a long-deferred hope.

The exercises were begun at 11 o'clock, May 13, by Cardinal Gibbons, whose beautiful opening invocation we feel constrained to reprint as well worthy of remembrance. His prayer was:

"We are assembled in Thy name, O Father of Mercies and God of all Consolation. When Thou didst appear in the flesh on earth Thy days were spent in going about and doing good, in healing the sick, in giving sight to the blind and hearing to the deaf and speech to the dumb and the power of walking to the lame, in strengthening the paralyzed limb, in cleansing the leper and raising the dead to life.

"Inspire, O Lord, with tender compassion those whose mission it will be to walk in Thy footsteps, in healing the sick and comforting the afflicted. Give them the grace to cheer and brighten the homes which they will enter, so that they may, like Thee, gladden the heart while they minister to the disease of the suffering member.

"O Thou who art the source of all wisdom, who art called 'the God of Sciences,' enlighten the minds of Thy servants with a ray of Thy countenance. May they drink deep at the fountain of knowledge, so that they may imitate Thee as far as human frailty can imitate Divine Power, in dispelling diseases, in alleviating pain and in converting the chamber of mourning and suffering to a chamber of joy and thanksgiving."

The building was formally presented to the Faculty by Dr. Edward N. Brush on behalf of the building committee, of which he is chairman, and was accepted for the Faculty by Dr. Brice W. Goldsborough, the president.

Dr. S. Wier Mitchell of Philadelphia, known and loved as physi-

cian, scientist and author throughout the world, delivered the dedicatory address, paying high tribute to Dr. Osler and to many Baltimore physicians, and before conclusion gave much sound advice as to the future conduct of the Library. His speech was responded to by Dr. Abraham Jacobi, distinguished for his work against tuberculosis; Dr. John W. Farlow of the Boston Medical Library, Dr. James Tyson of Philadelphia, Dr. John S. Billings of the New York Public Library, and Dr. Robert Fletcher of the Library of the Surgeon-General's Office, Washington.

NEW MEDICAL LIBRARY BUILDING
Dedicated May 13, 1909

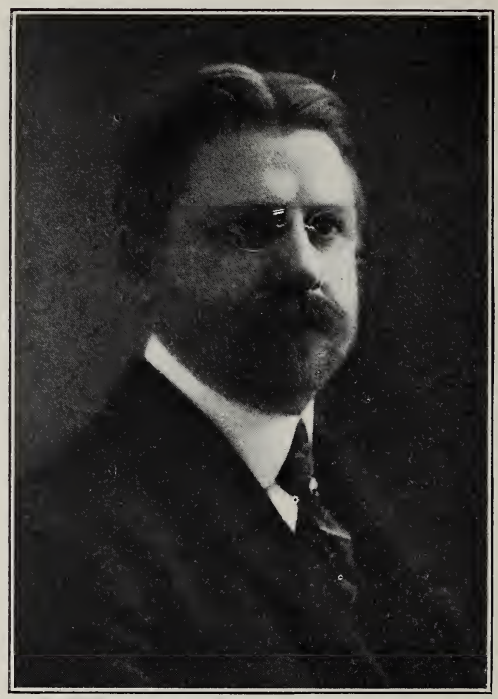
Osler Hall came in for perhaps more attention than any other portion of the building. It is seldom that a man lives to see his merit acknowledged by so magnificent a tribute, and rare indeed that he himself partakes in the dedication. Dr. William H. Welch, who is possibly one of Dr. Osler's closest friends in Baltimore, dedicated the building, speaking in masterly style and paying high honor to Dr. Osler as professional man and friend. Dr. Osler, in replying to this speech, thanked the donors warmly for the tribute paid, and spoke touchingly of the physicians of long ago, how they

would have gloried in this achievement, and then in more subdued manner he told of those who had recently passed beyond, but who had lent their hearty support to the plan, and then he urged that the present-day men be not content to rest upon their laurels, but go on, and as individuals and as members of this great medical organization of Maryland keep adding to the treasures of the library, knowing that books and manuscripts deposited there were insured safety. Dr. Osler was the recipient of much attention during the entire meeting, but was especially so during this session, and in the evening was tendered a public reception in Osler Hall.

The second day of the meeting was also largely attended, though perhaps fewer laymen were present. The morning and afternoon were devoted to scientific and business sessions, and the annual banquet of the Faculty was given in the evening in the new Osler Hall. This was attended by many prominent Baltimoreans. Toasts were responded to by Mayor Mahool, Dr. William H. Welch, former Attorney-General Charles J. Bonaparte, Dr. Charles O'Donovan and Dr. T. A. Ashby. Ex-Governor Warfield was conspicuous as a guest of honor.

On Saturday morning the officers for the ensuing year, a list of whom may be found on another page, were elected, after which the guests and members of the Faculty went in large numbers to Sabillasville, Frederick county, and attended the opening of the new Maryland State Sanitarium for tuberculosis sufferers. The location is ideal. It is near the top of South Mountain, and is surrounded by pine forests. The view of the valley obtained from here is excellent. The air is exceptionally pure and invigorating. There is every opportunity for an unexcelled food supply from the country region lying round about, and a splendid water supply is assured. The buildings were presented to the State by Senator John Walter Smith, and accepted on behalf of the people of Maryland by Governor Austin L. Crothers. Dr. William S. Thayer and Dr. John S. Fulton gave in brief a history of the struggle against the "white death" and how this new hospital came to be. Dr. Herbert M. King told of the methods used at the large sanitarium at Loomis, N. Y., where he is superintendent. The completion of this institution places Maryland in the forefront of the war being waged throughout civilized nations against tuberculosis, and will aid much in the great work that "Eudowood" has been doing for years.

In the evening the final meetings were held, during which the reports of the building and publication committees were heard and adopted or referred to the council. A portrait of Dr. William H. Stokes was presented to the Faculty, a brief summary of the work of the Board of Medical Examiners of the State was given, and the celebration was closed with a social smoker.



GEORGE MILTON LINTHICUM, M.A., M.D.

Newly-Elected President Medical and Chirurgical Faculty of Maryland

THE NEW PRESIDENT OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND

¶ Born August 17, 1870, in Anne Arundel county, Maryland.

¶ Primary education in the public schools.

¶ Collegiate education at St. John's College and Johns Hopkins University, from which he received the degree of B.A.

¶ Medical education at College of Physicians and Surgeons, Baltimore, class of 1893.

¶ Professor of Physiology, Woman's Medical College, 1895-1896.

¶ Professor of Physiology and Rectal Surgery, Maryland Medical College, 1898-1907.

¶ Professor of Physiology and Proctology, Baltimore Medical College, 1907—.

¶ One of the originators, Visiting Physician and Director of Eudowood Sanitarium.

¶ Coroner during the terms of Governors Warfield and Crothers.

¶ Surgeon to Maryland General Hospital and to Church Home and Infirmary.

¶ Vice-President Medical and Chirurgical Faculty, 1908-1909.

¶ President Medical and Chirurgical Faculty, 1909-1910.

ORIBASIUS, AETIUS, ALEXANDER OF TRALLES, PAULUS AEGENITA

(300-600 A. D.)

THIRD OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter III.

In taking up the history of medicine we find ourselves continually overlapping into the domains of theology. From the days of Adam and Eve, mankind, through all the ages, has, to a great extent, looked upon the healing art as, in some manner, connected with the supernatural. Disease was either the result of divine wrath, or could be expelled by an appeal to divine power. Every age and race prayed and bribed for relief. The Hamitic, the Semitic and the Aryan, however much they differed in other particulars, were on common ground in questions of health and disease. They all prayed, offered up sacrifices, appeased the god or gods, had faith and believed. This has been the history of the mass of mankind. So it happened that, from the earliest days, medicine and religion were put on the same plane.

In Assyria, Phenicia and Egypt, as well as among the Biblical Jews, Greeks and Romans, we find medicine inseparable from the priestcraft.

Touching on the unknown, the ecclesiastical bodies recognized its value as an aid in their work, and, from the time of the mythological Olympian deities down to the Emmanuel doctors in our own day, every phase of religion has made use of the healing art in the propagation of its tenets.

But experience has fully proven that science does not thrive on theology. Analyzed to its ultimate principle, medicine is more or less of an exact science in so far as there is a physical cause for every physical effect, and an effect for every cause. With Hippocrates it started out on a more or less direct course, and to reach its destination, which is perfection, it could not, nor can it, be led aside by theology. The principles of the cure of disease are steadfast and unchangeable, and follow out certain inviolable, though perhaps non-understandable, laws of the body, and have been so since the breath of life was blown into the first man. Religion, however, has been from time immemorial as varied as the colors of the spectrum, and all attempts made to mould the healing art to its variable forms must result unfavorably to the art.

Without entering into any theological speculation, we need only state that, at least in so far as the scientific treatment and cause is concerned, there could never have existed such a factor as the supernatural. The attempt of the early church to prove the con-

trary resulted, for the time being, in the almost complete destruction of medical science, and had it not been for the fortunate translation into Arabic of the works of Hippocrates and Galen, all the accumulated knowledge of the ancient period would have been lost.

But religion has always been an index of the intelligence of the age, and, in so far as medicine is concerned, we find that, in common with the decline of all the arts and sciences, it descended into abysmal darkness.

For many centuries after Galen we note no advance. This interval was the age most given over to a belief in miracles, and, with this competitor, little progress could be made. It was much easier and pleasanter for an invalid to worship at some altar, or wear an amulet, in the hope of recovery, than to be physicked, and it heightened the ecclesiastical influence by encouraging the miraculous healing power of faith. Under such influence, the medical science became abysmal. In this period we find the world's saddest story. We turn over the pages of these dark centuries with disgust and horror at the chain of frailties and blood-lust in perpetual succession. It is a story of the mouse being swallowed by the cat, and she, in turn, being masticated by a larger animal. We see strife, fanaticism and villainy constantly paraded under holy colors, until in vain de we look for such an institution as the brotherhood of man. We discover every great truth burdened and disguised in ignorance, and, like the oasis on the desert, it is only occasionally that we make out true purity. It seems that all humanity has sunk to the level of the wild beast of the jungle in its desire to gorge on the carcass of the weaker, and we find nations engaged in gigantic struggles for no other purpose than their spoliation and utter annihilation. Is it any wonder that medicine and its practitioners should be engulfed in this disgraceful cataclysm, and sink to the level of their surroundings?

Civilization was at a low ebb, and so was science. The healing art proved no exception, and it is with little success that we search for characters worthy of record.

As has already been stated, medicine entered upon its blackest period. From the days of the apostles, the healing art could make no headway against the belief in miracles. As the faith in the new religion spread its wings over the masses, so the very reason for the existence of medicine seemed abolished. Cures were to be effected by prayer and belief, and the function of the doctor was absorbed by the teacher of religion. The church became the donor, and exercised its authority to increase its ownership.

Finally, there sprung up the monkhood or monastaries, the members of which, along with their other self-inscribed duties, undertook to heal the sick.

The first monks of which we have any knowledge, however, antedated those of the followers of the new religion. They were known as the "Essenes," and are described by Josephus as belonging to one of the three Jewish sects that flourished in the second

century before Christ. One of their tenets was to succor the sick. "They also take great pains in studying the writings of the ancients, and choose out of them what is most for the advantage of their soul and body, and they inquire after such roots and medicinal stones as may cure their distempers." Their example was, in a measure, followed in later years by the Benedictines and other orders who included medicine in their curriculum of study.

Out of the teachings of the Essenes ultimately grew a revival of the cabalistic treatment of disease. The sick were to be cured by means of certain mystical signs, brought into play by corresponding forces in the other worlds, a knowledge of which could be obtained only as the result of seclusion, piety and meditation.

The idea appealed to the decading Greeks and Romans, and was finally taken up by the early Christians.

It would transcribe the limits of this work to give even an outline of the part superstition has played in the history of medicine. Suffice it to say that, even in our own enlightened day, we are not entirely free from its baneful influence, and no doubt the reader comes into frequent contact with it. It would be, perhaps, quite a shock to some of us to learn how many amulets and charms are now, by more or less intelligent people, being worn "to keep off evil" and cure disease. Among the less advanced nations it is quite a common custom. From the Philippines, instances are reported where the blind, unquestioning faith placed in the "Anting-anting" worn around the neck is so great that the wearer exposes himself to the fire of a Krag with an absolute certainty that the charm will render the bullet harmless. But we need not go so far from home to see examples of superstitious credulity, and perhaps we should not expect to find a higher degree of civilization in the inhabitants of the "twilight ages."

So we learn that from the day of Galen the healing art made a gradual descent, along with the other branches of science, and not until the Byzantine period did it recover anything like its former prestige.

For a few centuries the methodic school continued at Rome, and among the few physicians of importance may be mentioned Coelius Aurelianus, who, next to Celsus, was the most influential of the Latin medical writers. Two others of note in this period were Aretaeus of Cappadocia and Alexander of Aphrodisias, the latter being the author of a treatise on fevers, still extant. Oribasius, Alexander of Tralles, Aetius and Paulus Aegineta lived in the third, sixth and seventh centuries, A. D., and are among the limited number of physicians of note during and following the Roman decline. These were largely compilers, and contributed little of extraordinary value.

Oribasius, born about 360 A. D., was a prolific writer, and indited 70 books, of which 17 have survived the ages. He followed, most minutely, the anatomy of Galen. He describes a peculiar form of madness, which he calls Lycanthropia. Those suffering from this dread disease are accustomed to wander out during the night,

visit sepulchres, and howl like wolves. They are pale; their vision is feeble; their eyes and tongues are dry, and their flow of saliva is stopped. They are thirsty, and their legs are incurably ulcerated, as a result of frequent falls. Russell traces this same disease through St. Lukes, and Forrestus in the sixteenth century.

Oribasius exercised a great influence over the Emperor Julian, with whom he had been friendly before his ascent to the throne.

He was sent by Julian to Daphne, located near Antioch, where he was to inquire of the oracle the probable result of an expedition the Apostate intended to send to restore the altars of the old gods. But Oribasius returned with the information that when he had put the question to the oracle in the name of the Emperor the reply he received was that "they were now all silent." Julian was a confirmed believer in dreams, and his friend-physician was often called upon to translate them.

Oribasius fell with Julian, and was exiled among the barbarians, among whom he exercised his great skill and became exceedingly popular. He was later recalled by Valentinian III, and, notwithstanding his connection with Paganism, received many honors before he finally died at Constantinople, about 390 A. D. Emperor Theodosius, as a result of the influence of St. Ambrose, was converted to Christianity, and, by official decree, declared the destruction of Paganism. Under his order Bishop Theophilus of Alexandria took possession of the temple of Serapis and destroyed the great and valuable collection of works composing the library. From this date begins the decline of the great school of Alexandria.

Aetius was a native of Amida, Mesopotamia, and lived about 500 A. D. He studied at Alexandria, and, in addition to being a court physician at Constantinople, was also a Captain of the Guard. His greatest work consisted in the compilation of all the extant medical data of antiquity, which comprised 16 books. His principal contribution to anatomy was the separation and description of the parotid and submaxillary glands. In his surgical teachings he displayed a wide range of accomplishments, and, according to Moir, he practiced scarification of the legs in anasarca; used the actual and potential cauteries; enucliated hemorrhoidal tumors; operated for aneurism, and resorted to internal remedies, with an idea to the dissolving of urinary calculi.

He distinguished the symptoms of various intermittent fevers, and discussed the eye, gout and urinary calculi. An important contribution was a report on Egyptian pharmacy.

Following closely on Aetius is Alexander of Tralles, who was born in Lydia. His time is given doubtfully as being in the sixth century, in the reign of Justinian. He was one of the four distinguished sons of a physician, from whom he received his first medical instruction.

He later studied in Italy, France and Spain, and finally settled in Rome, where his superior skill and intelligence acquired for him an extensive reputation.

By many writers he is placed in the same class with Hippocrates

and Galen, and all unite in designating him as a fine example of the ideal physician.

As with Aetius and other predecessors, he follows closely the anatomy and physiology of Galen, but amplifies and beautifies many of his crudities. He believed in the Hippocratic theory of the humors, and gave a good description of pleurisy and inflammation of the liver. He also describes the seat, varieties and management of dysentery, and makes a study of melancholia. A work of importance is his treatise on intestinal worms, which he divides into the ascorides, lumbrici and taeniae, and for each of which he gives symptoms and treatment.

As regards blood-letting, he contends that since the blood is a continuous system, it makes no difference in what part the operation is performed for the relief of symptoms. He laid down the rule that in the treatment of disease attention should be largely paid to the circumstances and environments of each individual case, and that age, sex, climate and constitution are great factors in the tendency toward health which nature encourages.

Paulus Aegineta was noted principally for his obstetrical and surgical work. He lived in the seventh century, and was the last great medical character before the approach of Mohammed.

His contributions to surgery were the result of much personal experience. He differed from the teaching of Aetius and agreed with Hippocrates as regards blood-letting, maintaining that the operation should be performed near the point affected. In treating violent ophthalmia he introduced arteriotomy, and recommended "freely opening a vein to encourage the passage of a calculus in its way through the ureter" (Moir).

He advocated the use of caustics for the purpose of opening "internal abscesses," and described the advantages of doing paracentesis in the treatment of ascites. His operation for stone in the bladder is described by Moir as follows: First, he endeavored to ascertain the situation of the calculus by the rectum; then made his incision, not along the raphe of the perineum as recommended by Celsus, but to one side of it.

He divided aneurisms into two classes: First, those that result from anastomosis, and second, those that follow rupture. He excised the mamma by a crucial incision. The same learned author already quoted, declares that Paulus was the first surgeon to perform tracheotomy. His method was to make a transverse incision between the third and fourth rings of the cricoid cartilage, avoiding the great vessels.

His reputation as an obstetrician was no less than that of surgeon. Head and foot presentation he declared to be nearly equally natural, and all others were to be transposed by art to one or the other if possible. He was the first to suggest embryotomy where the head was too large to traverse the natural passage, having previously ascertained the death of the child. He advised against undue force being used in the extraction of the placenta to prevent partial inversion of the uterus.

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D.

JOINT AFFECTIONS.

Joint swellings are of the greatest interest on account of their diverse causes and varied course. In the initial stage practically all forms of arthritis have the same physical signs, but the course of the disease and the ultimate fate of the joint vary with the cause of the swelling and are especially modified by proper treatment. A correct diagnosis in the initial stage, therefore, is of the utmost importance. Many valuable contributions have been published in recent years, all with a view to make early diagnosis and proper treatment more frequent. Unfortunately, in the mass of material presented, the reader finds himself lost in a sea of apparent contradictory statements. This difficulty is largely due to confusing classifications.

The following groupings, first according to pathological process and second according to etiology, appear to be the most useful for the study of these lesions. In the older literature one notes an immense array of contradictory and confusing reports and observations of what we now know to be tuberculous arthritis. This confusion and contradiction arose from the fact that the lesions were studied by the various observers in different stages of the disease. Whenever we find the real causes of our obscure diseases the pathology always becomes less confusing.

The pathological picture in the non-suppurating lesions of joints seems to be a progressive one through several stages. Beginning with a simple serous effusion, we find, successively, villus formation, erosion of cartilage, fibrosis, new bone formation and eburnation.

I. *Synovitis and Effusion.*—This is the pathological condition in the initial stage of practically all joint lesions. Certain cases never progress beyond it, while others go to suppuration or to one of the later stages of the picture. As a rule, the degree of effusion and its character depend on the nature and intensity of the exciting cause.

In synovitis from trauma the effusion is usually hemorrhagic, as it also is in malignant tumors, in hemophilia, purpura and scurvy, and in very intense infections. A serous synovitis is the initial lesion in pyogenic arthritis. Here the fluid contains the bacteria causing the disease. A sterile effusion may be caused by trauma or may be present as a collateral exudate when there is

osteomyelitis of one of the bones entering the joint. Sterile effusion also occurs in neuropathic joint lesions.

II. *Relaxed Joints.*—Long-continued or frequently recurring effusions permanently stretch the ligaments and the capsule, thereby bringing about a condition of relaxation of the joint. A similar result occurs when the masculature of the joint is greatly weakened. Any persistent loss of support or abnormal relation of the articular surfaces will produce relaxation. Such joints lack the normal defenses against injury and are especially liable to traumatic effusions. Goldthwait (*Boston Medical and Surgical Journal,* May 25, 1905) gives a study of the relaxed pelvic joints.

III. *Villus Arthritis.*—When the effusion is absorbed from a distended joint the relaxed synovial membrane is thrown into folds. If the distension has been of long duration, or the inflammatory reaction active, these folds will be thickened by the new connective tissue and blood vessels in the subendothelial space. In movements of such a joint these folds are caught between the articular surfaces, flattened out and become pedunculated. They are sensitive, giving pain when caught between the bones, and their presence causes a soft purring crepitation when the join is moved. Occasionally the pedicle becomes twisted, and the villus separates and becomes a soft, loose body in the joint.

Histologically, these villi are made up of fatty tissue containing many blood vessels and varying amounts of fibrous stroma, covered by a layer of endothelium. The name lipoma arborescens, given them by some pathologists, comes from this histological structure and the fact that the villi usually occur in grapelike clusters suspended by a single pedicle.

IV. *Arthritis Fibrosa.*—When the endothelial layer of the synovial membrane is injured to a slight degree the reaction includes formation of new endothelial cells to cover the defect. When the injury is more severe or of greater extent the injured cells are not regenerated, but their place is filled in by fibrous scar tissue.

The cartilage is usually considered to play a passive part in joint diseases. When the articular cartilage is separated by trauma, by sequestration or degeneration the defect is filled in by a connective-tissue scar, usually with no attempt at regeneration of cartilage. If the defect is near the synovial border, the reaction is much more active, new blood vessels grow into the area from this membrane, and a considerable amount of new cartilage is formed (Bloodgood, *Progressive Medicine,* December, 1906, p. 248).

Arthritis fibrosa is that stage of arthritis in which there is a distinct replacement of synovial membrane and cartilage by fibrous scar tissue. A joint in this condition is always impaired in function, the degree depending on the amount of fibrosis and, in a measure, on the position of the scar in the articulation.

V. *Osteoarthritis.*—Here the defect in the cartilage is replaced by bone. The osteoblasts of the periosteum are stimulated by the irritant present in the synovial fluid, or even mechanically. New bone is formed in the joint or around it, and a varying degree of firm ankylosis results. This is the hypertrophic form of osteoarthritis, and is usually the result of injury or infection. The atrophic form (Goldthwait) shows rarefaction of the articular ends of the bones, with absorption from inside. In small joints this process may extend to complete destruction. Then the deformity is great from subluxation or dislocation. In this variety there is never bony ankylosis as is present in the hypertrophic form.

VI. *Loose Bodies.*—Connell (*Annals of Surgery,* February, 1906) discusses the literature of this subject and reports some cases of his own. König's work on the subject is most important, and his publications, as well as those from his clinic, are abstracted and discussed by Bloodgood (*Progressive Medicine,* December, 1906).

These loose bodies may be soft fibrous tissue, or cartilage, or hard bone. The separation of a villus has been mentioned. A fibrinous exudate may form lumps of fibrin in a moving joint. Traumatic separation of cartilage, as in the common cases of separation of the semilunar cartilages of the knee, is a frequent source of these bodies. The separated cartilage may ossify and form hard bone. König describes the condition osteochondritis dessicans, where, after a slight injury, a piece of cartilage sloughs because its vitality is impaired. He compares the process with the sloughing of the skin that follows injury.

VII. *Suppuration.*—Here the pyogenic bacteria invade the joint, and the changes are those of suppuration everywhere. The digestive action of the organisms affects the synovial membrane and the cartilage, leading to degeneration and replacement by granulation tissue. If the process is not limited by treatment, the joint is completely destroyed. The process of healing ends in the formation of scar from the granulation tissue. This scar is usually fibrous, but the exposed bone may proliferate, forming an osteoarthritis. In addition to the changes in the joint itself, the periarticular tissues become infiltrated and the organization of the exudate forms new tissue around the joint. This scar tissue is especially prominent in the causation of the fibrous ankylosis following arthritis.

Etiology is another basis for the classification of joint lesions. We have indicated the progressive nature of the pathological picture. This explains the apparent divergent opinion of the authorities in describing these diseases.

I. *Traumatic Arthritis.* — This is usually a simple synovitis with effusion, occasionally with hemorrhage into the joint. It may vary in degree from this simple process to an extensive compound

dislocation, whose repair necessarily destroys the joint. In addition to the direct result of the injury, trauma is the important factor in localizing a metastatic arthritis from infection elsewhere in the body. Moreover, a slight traumatic arthritis may lead to a relaxed joint and to other progressive changes due to degeneration and chronic inflammation. Lange (*Journal of the American Medical Association,* December 26, 1908) discusses the clinical and medico-legal significance of slight trauma to joints. He makes a point of the fact that the diseases due to traumatism are monarticular, while the trophic and other forms are polyarticular, and recommends X-ray examination of several joints in every supposed traumatic arthritis.

II. *Collateral Arthritis.*—This is simply an endothelial exudate occurring when the synovial membrane is brought near to the seat of inflammatory reaction. The exudate is sterile and usually clear. This form of arthritis is important because it occurs in children when there is osteomyelitis of one of the bones entering the joint. The condition very frequently goes unrecognized until the bone abscess ruptures into the joint and destroys it through a suppurative arthritis. The common mistake is to treat the disease for rheumatism, giving salicylates, etc. Even when the monarticular lesion causes the physician to resort to aspiration the clear, sterile exudate may mislead him. In a child association of fever and other symptoms of infection with a single joint swelling and pain, especially if there is tenderness above or below the joint, should lead to exploration of the joint and the bone. In the MARYLAND MEDICAL JOURNAL, March, 1906, I have discussed this condition in relation to the pneumococcus bone lesions.

III. *Infective Arthritis.*—This group includes tuberculosis and syphilis. It is so large that it will be made the subject of a special review.

IV. *Pyogenic.*—Any of the common pus-producing organisms may gain access to a joint through the circulation or directly through a wound. The former group is of most importance, because it is here that the unrecognized infection of the joint leads to permanent destruction. The typhoid bacillus, streptococcus, staphylococcus, pneumococcus and other organisms have been found in pyogenic arthritis. Their influence on the treatment of the lesion I have discussed in a previous paper (MARYLAND MEDICAL JOURNAL, March, 1906).

Gonorrheal arthritis is the most common variety of this group. The disease may exist as any of the pathological conditions described, and if untreated is progressive, leading to complete destruction of the joint with osteoarthritis and great periarthritis. Bloodgood (*Progressive Medicine,* December, 1908) reports a case of gonorrheal arthritis that showed all the joint conditions of the disease *arthritis deformans.* The diagnosis is made by finding

the organism in the joint exudate. The association of a joint disease with urethritis or prostatitis in a man or pelvic disease in a woman is practically pathognomonic.

V. *Toxic.*—In some cases the bacteria are not present in the exudate. The effusion is sterile, but there is a focus of infection somewhere in the body, and the removal of this focus cures the joint disease. The beneficial results following the removal of the tonsils in patients suffering from arthritis is an example. It is interesting to note the good effect of intestinal disinfection, especially by means of the lactic-acid organism, on arthritis deformans. This is an argument in favor of the toxic rather than the trophic origin of the disease.

VI. *Neuropathic.*—Both organic and functional nervous diseases have associated joint lesions. Of the former the arthropathies of tabes and syringomyelia are most important. It is interesting that in the former disease the joint lesions occur in the lower extremity, while in the latter we find the upper extremity most often affected. The lesions usually begin as a synovitis with effusion, but rapidly become relaxed joints containing villi and hard and soft loose bodies. Dr. Bloodgood suggests that these patients are suffering from a recurring traumatic arthritis, and that their anesthesia allows them to go on using the disabled joint and renders the process progressive.

Barker (*Journal of the American Medical Association,* February 2, 1907) considers neuropathic joint lesions. He calls especial attention to the painful joints of the psychoneurotics and the immense value of suggestion in their treatment.

Intermittent joint effusions (hydrops articulorum) is a remarkable condition in which there is recurring joint effusion without cause. Pain is inconstant and there is no fever or local heat. The disease seems related to angioneurotic edema.

VII. *Unknown or Indefinite.*—To this group we assign the diseases acute articular rheumatism and arthritis deformans. Acute articular rheumatism seems an acute infection in which the joints feel the toxin. The exudate is sterile, there is no periarthritis, and the recovery is complete without scarring.

Arthritis Deformans (Chronic Progressive Arthritis).—The etiology of this disease, as well as its entity, its course and its pathology, are the subject of controversy. We have mentioned the cases that seem to be infectious or toxic. Nathan (*American Journal of the Medical Sciences,* December, 1906) advances many arguments in favor of its trophic origin. Neuman (*Medizinische Klinik,* Berlin, March 22, 1908) calls attention to the frequency of one form of the disease in women at the menopause. He attributes this to a fault in general metabolism, and advises the use of ovarian extract. The joints show varying pathological pictures; often all the varieties described may be found in the different joints of the same individual.

Gout.—The joint lesions of gout seem associated with a deposit

of uric-acid salts in the periarticular tissues. The joint itself is seldom changed beyond a simple synovitis.

Hemophilia, Purpura, Scurvy.—In these diseases a hemorrhagic effusion into the joints is common. This may be a traumatic arthritis in an individual who bleeds easily. The hemophilic arthritis has attracted most attention. Frölich (*Centralblatt f. Chir.*, 1905, Vol. XXXII) distinguishes three forms—acute, subacute and chronic. The course of the disease is very similar to that of acute articular rheumatism, from which the diagnosis is difficult. The two diseases in the acute form differ only in that in hemophilia the disease is most common in children, involves only a few joints and there is usually ecchymosis. The symptoms may resemble those of acute osteomyelitis. Operation in these cases is very dangerous on account of hemorrhage. Cruet (*Presse Médicale,* September 5, 1908) discusses this disease, also Bloodgood (*Progressive Medicine,* December, 1906).

Tumors.—Tumors of the joint structures are rare. Both benign and malignant tumors have been found arising from the synovial membrane and the joint capsule. The tumors described include lipoma (probably villi), angioma and sarcoma. The sarcomata are simple, including angiosarcoma as well as giant-cell tumors.

The clinical picture of the malignant tumors is rather constant. The patients are usually adults, who have a painful swollen joint, coming on without trauma. There is little or no restriction of motion. The X-ray is negative, and there is no reaction to tuberculin. Aspiration withdraws bloody fluid. This last seems the characteristic sign when it is associated with a thickened capsule. A review of the entire subject of tumors of joints will be found in *Progressive Medicine,* December, 1906, pp. 251 to 255.

THE DIAGNOSIS of medical diseases of the joints is most important in order that time may not be lost before operating on the surgical lesions. The most important factor in the restoration of function to a diseased joint is the cure of the lesion before irremedial pathological changes have occurred. White (*Clinical Journal,* London, May 6, 1908) gives a good study of the diagnosis of joint diseases. Probably the simplest general rule to follow is that a monarticular lesion is never acute articular rheumatism, and that in chronic joint diseases a focus of infection elsewhere in the body should be sought for and, if possible, removed.

Every single swollen joint should be aspirated and the fluid examined bacteriologically. Pus in a joint is the indication for immediate arthrotomy and continued irrigation with or without drainage according to the extent of the joint destruction. Bacteria in the effusion are usually a reason for arthrotomy and irrigation, the joint being closed afterward. The presence of typhoid bacilli is an exception. Here simple aspiration is usually sufficient. The gonorrheal joint should be washed out and the original focus treated.

Bier's hyperemia, both the active and the passive forms, used by

baking and by constricting bandages, etc., is a most valuable aid in treating arthritis of various kinds. The constriction hyperemia is especially valuable in the early stages of gonorrheal arthritis. We can substantiate the claims of Baetzner (*Deut. Zeit. f. Chir.*, April, 1908), who reports many good results from its use in gonorrheal joints.

For the late stages, where there is arthritis fibrosa and other interarticular changes, various operations are advised. Villi should be excised and the joint carefully closed by suture. Forced motion under anesthesia breaks up fibrous ankylosis, and Baer (*American Journal of Orthopedic Surgery*, October, 1907) recommends the injection of sterile olive oil into the joint after the manipulation. Distention of the joint with oxygen is advised, and Robinson and Werndof (*Central. f. Chir.*, 1905) recommend this distention preliminary to X-ray examination for diagnosis. They claim that the plates made after this treatment show the changes more distinctly.

Transplantation of fascia, etc., into the joint (arthroplasty) is recommended by Murphy (*Journal of the American Medical Association*, May 20-27, June 3, 1905). The method has limited application, because periarthritic inflammation renders the available soft parts unfit for the process. The transplantation of periosteum over the divided bones is a method that is more often available (Hofman, *Beitr. z. Klin. Chir.*, September, 1908). Complete transplantation of joints has been performed by Lexer (*Surgery, Gynecology and Obstetrics*, June, 1908).

Braces of various kinds, as well as other forms of apparatus, have been devised for the protection and the fixation of joints. These mechanical contrivances will require a separate review.

HYSTERICAL DEFECTS OF MUSICAL LANGUAGE.

(A FIFTH CENTER.)

N. Trigant Burrow, M.D.

Professor Ingegnieros' thesis premises with Spencer's familiar biological accounting of the origin of music, which postulates the fundamental correlation of feeling and expression, the conception being a psychological inference from the basic principle of reflex activity. With an increasing complexity of emotional states there is developed concomitantly a nicer facility of muscular co-ordinations for producing the inflexions appropriate to the needs of a more complex system of expression. Thus cadence in expressing the emotions is the correlate of words in expressing ideas.

Clinical research has shown a precise analogy between the emo-

tional and the ideational systems of language, each of the centers of musical expression consisting of a specialization of the particular speech center of which it is the analogue. But besides the four corresponding functions in the two forms of language—in the sensory phase, the auditory and visual; in the motor phase, the phonetic and graphic—musical language presents a further mode of expression with a concomitant specialization of cerebral cells forming a fifth center—that of images for *instrumental execution*, which has no counterpart in the language of current use, though its analogy is found in the various forms of instrumental writing, as, for example, that of typewriting.

There is here an obvious breach in the integrity of Ingegnieros' system of psychological types for musical language, in that he does not take account of a sensory type of images for musical execution corresponding to its motor type. As there are correlated sensory and motor images in the analogous forms of memory throughout the system of musical types, the *a priori* assumption of a sensory type parallel to the motor type for instrumental execution follows as a necessary correlate here as well. Furthermore, the existence of this special sensory type of image corresponding to the motor type is evident in view of the number of musicians who depend upon the visual images of the position of the fingers upon an instrument, or of the actual place of the keys, for their memory of the first notes of a given piece, and from the further fact that many musicians experience musical sensations as effectually by observing the keys struck upon a silent clavier or windless organ as by hearing the appropriate sounds. It is, therefore, imperative to introduce into the system of musical types a third sensory type of images, corresponding to the third motor type for instrumental execution.

The distinction between the central or psychical memory in question and the physiological memory residing in the organs of execution, called muscle memory, is apparent, when it is considered that the latter may exist when the former has become dissociated or completely destroyed, as happens in pathological conditions in which the subject has lost the memory of instrumental images and is no longer capable of appreciating the feeling of the formerly familiar relation of the notes, while yet he may reproduce mechanically the co-ordinations of movements required in the execution of the piece.

Therefore, as in the other types of aphasia and amusia, in whatever sense-sphere a defect may be observed, one must discriminate its sensory or motor origin, so in the cases of a loss of the memory forms of instrumental execution, the psychopathologist fails of an adequate analysis if in advance he assumes a defect to be of necessity motor, and neglects to take account of the possibilities upon the sensory side. Hence the literature, theoretical and clinical, touching the analysis of this type of amusia will forefend much blue-penciling if cognizance be taken of this sensory correlate to the motor amusia of instrumental execution.

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Under the Direction of the Secretary of the State Board of Health

THE CONTROL OF TUBERCULOSIS.

THE recent annual meeting of the National Association for the Study and Prevention of Tuberculosis, accomplished a great deal in clarifying and consolidating the field of activity in the campaign against tuberculosis. This was particularly the case with the meeting of the Advisory Council on May 13 and with the public meeting of May 14, which was addressed by the Rt. Hon. James Bryce, Ambassador of England; Hon. Joseph Cannon, Speaker of the House of Representatives; Dr. William Osler of Oxford, England, and Dr. Wm. H. Welch of Baltimore.

At the meeting of the Advisory Council Dr. Victor C. Vaughn presented an excellent paper on "The Legal Regulation of Tuberculosis, State and Municipal." The following is an extract of Dr. Vaughn's paper:

1st. The State must declare by legal enactment that tuberculosis is an infectious and communicable disease.

2d. It shall be the duty of every physician to report all cases of tuberculosis.

3d. Report shall be made upon a blank furnished by the State Board of Health, and this blank shall give, in addition to the name, color, age, sex, nativity, occupation, place where last employed and present address, the evidence upon which the diagnosis has been made, the part of the body affected and the stage of the disease. All cases in which the sputum, urine, feces, pus or any other bodily discharge, secretion or excretion, contains the tubercle bacillus, shall be regarded as open cases of tuberculosis, and the rules providing for disinfection of premises shall apply to only such open cases. All other cases shall be recorded for statistical purposes and shall be subjected to frequent examination.

4th. It shall be the duty of every health officer of a town, city or village, when so requested by any physician, to make, or cause to be made, a microscopic examination of the bodily secretion or excretion.

5th. The physician shall be allowed $1 for reporting each case of tuberculosis.

6th. Records of cases shall be kept by the local health officer, who shall

furnish copies to the State Board of Health quarterly. The secrecy of the records must be provided for.

7th. Disinfection by the local health officer should be mandatory. Disinfection must be done according to a method approved by the State Board of Health.

8th. If renovation is considered necessary by the local health officer, he shall direct it to be done, and such renovation shall be at the expense of the owner.

9th. Occupancy of apartments vacated by the death or removal of cases of open tuberculosis is prohibited until such apartments are disinfected and renovated to the satisfaction of the local health officer.

10th. Any person who shall dispose of his sputum, saliva or other bodily secretion or excretion, in such a manner as to cause offense or danger to any person occupying the same house or apartment, may be deemed guilty of a misdemeanor upon complaint of the person or persons subjected to offense or danger. The local health officer receiving such a complaint, and finding it to be well founded, shall issue an order abating the nuisance, and the continuation of the nuisance shall be a misdemeanor, punishable by fine.

11th. The health officer can enforce these regulations in case of the patient's failure to comply with them.

12th. A penalty for failure to register or for a fraudulent report shall be provided by law.

It will be noticed that Dr. Vaughn's paper follows closely the "Maryland system," excepting that the execution of the law is thrown upon the local health authorities rather than upon the attending physicians. Dr. Vaughn's paper was discussed by Dr. Arthur T. Cabot of Boston, Dr. Marshall Langton Price of Baltimore, Dr. Wm. C. White of Pittsburg and Dr. C. O. Probst of Columbus.

It is to be regretted that abstracts of only one of these discussions are available. This, however, gives one point of view, and is as follows:

Legal regulation is the latest weapon in the campaign against tuberculosis. In order to justify legislation its necessity must be shown. The co-ordinated control of tuberculosis may be divided into three heads: First, management of the sick; this includes both treatment and isolation. Second, public opinion; this includes popular education. Third, statutory control.

We have in the past depended mainly on hospital and sanatorium treatment, isolation and popular education. The question, then, arises, Are these two methods sufficient? My personal opinion is emphatically that they are not. The defects of public opinion are variability and inconstancy. Isolation in hospitals fails to meet the situation because tuberculosis is a chronic disease. It would fail in the same manner in smallpox, cholera and yellow fever if these diseases ran a course varying from three to five years and not causing total disability from the start.

Eradicating tuberculosis by a tremendous increase in hospital and sanatorium facilities I regard as utopian and impractical—first, because consumptives will not go to hospitals, and, second, because they will not remain in hospitals. The deaths in institutions of all classes have always been under 3 per cent. of the total in Maryland.

Legislation in the past has been addressed mainly to the extensive rather than the intensive method of propagation. Experience has shown that prolonged and intimate contact is necessary to cause tuberculosis in a great

majority of cases. For these reasons I regard antispitting ordinances as mainly of educational value.

The control of tuberculosis may be boiled down to *the protection of the non-tuberculous members of the tuberculous family.*

Tuberculosis is propagated first to the family, second to friends and coworkers. Future legislation should be directed toward the *intensive* rather than the *extensive* method of propagation.

The terms *tuberculous family* and *tuberculous domicile* are used in the same sense as they are employed by the bureau of the census, and do not signify blood relationship. The Maryland law proceeds entirely on the intensive method of attack, and provides first for the protection of the *tuberculous family.* Further statutes will be enacted providing for the protection of coworkers. These will extend the powers of the State Board of Health to factory inspection and removal of all unnecessary sources of danger.

Dr. Vaughn has well stated the essentials of a law for the regulation of tuberculosis. The fundamental requirement is registration. That is, of course, the feature of all recent enactments. After registration the real essential is to fix the responsibility for the protection of the tuberculous family. In Dr. Vaughn's original draft this responsibility is fixed upon the local health authorities. This is also the case with the Wisconsin law. I feel that under present local organization in health matters the problem is too large a one for the health officers to deal with directly. I think that the Maryland and New York plan, fixing the responsibility upon the attending physician, is more practical.

I also consider the provisions of the Wisconsin law, compelling a tuberculous person to carry a flask about with him, too drastic to admit of practical execution. I think also, the direct execution of the law by the health authorities, as provided by the Wisconsin law, liable to cause friction and in this way defeat its purpose.

The essential difference between the New York and Maryland laws is that the laws of New York provide for the payment of the fee for registration, while the laws of Maryland only provide a fee for home prophylaxis. Personally, I am opposed to paying fees for registration. My own opinion is that physicians should be licensed in the same manner as others are who follow dangerous occupations. Physicians handle a highly dangerous class of material—namely, infectious diseases—and they should only be allowed to handle them provided, first, that due notice is given to the health officers, and, second, that they are handled in a manner conforming to law.

From a practical standpoint I can say without hesitation, after six years' experience, that the tuberculosis law of Maryland has been a great success. Time does not allow me to go into a discussion of the direct benefits, but there is one indirect benefit which has been conspicuous. Previous to the enactment of this law hardly 2 per cent. of our physicians realized that they had any duty toward the *tuberculous family* except to occasionally see the patient and give him a powder or pill. All our physicians are now alive to their responsibilities, and the moral effect of these responsibilities being placed upon them by statute, has been productive of very great good.

I do not suppose it is necessary to impress upon this audience the fact that legal regulation is by far the most important as well as the most economical method which we have for the control of tuberculosis. Tuberculosis is unique among diseases in the number and strength of the forces which have been brought to bear against it. This very multiplicity of forces, however, has had its unfortunate feature. Tuberculosis is not a problem of housing, of poverty, or even hospital treatment, though these are all important contributing causes.

As I feel that the real issue has probably been obscured in the minds of

the profession, and has certainly been obscured in the minds of the public, I have felt it my duty to reiterate certain facts, as I do now. These are only A B Cs of sanitation and may be gleaned from any primer: First, that tuberculosis is an infectious disease, not differing essentially from typhoid fever, malaria or smallpox, excepting in the relatively greater importance of contributing causes; second, that all persons, no matter how healthy, are tuberculizable. To dispute these facts we would have to ignore the plain evidences of animal experimentation. The moral of this dissertation is that tuberculosis will never be controlled by a violent attack upon accessory causes and shutting our eyes to the direct cause. It seems to me that with some of our present methods we are dealing with the situation in the same manner as the authorities of a city might, who, when they found the citizens dying of typhoid fever, due to a polluted water supply, would advise them to meet the situation by daily bathing, fresh air, a light, nutritious diet and abundance of rest.

The same minor differences of opinion prevailed at the public meeting on May 14. These differences referred to ways rather than means. Undoubtedly the situation was greatly clarified by the clear and concise remarks of Dr. Welch in the closing address. Dr. Welch emphasized the importance of registration as the fundamental problem in dealing with the tuberculosis question. In his view of the situation Dr. Welch quoted extensively from the writings of Dr. Arthur Newsholme, to whom he referred as the greatest living statistical authority upon tuberculosis. The gist of Dr. Newsholme's finding, as Dr. Welch stated, was that the extensive decline in tuberculosis in England and Wales was due to institutional segregation of advanced cases. "If we know," said Dr. Welch, "that institutional segregation has in the past proven of the greatest efficiency, it is along this line of known value that we should proceed in the future."

Dr. Welch's reasoning is so sound and convincing that his conclusions should be accepted by all those interested in the antituberculosis campaign, and every attempt should be made to increase the number of institutions for the care of advanced cases to the maximum. There are two important facts to be considered, however, in planning the increase of institutions for the care of advanced cases: First, how nearly has institutional segregation of advanced cases reached its inevitable limitations? Second, are there any better methods at the same or lesser expense? *Universal* segregation necessarily implies *compulsory* segregation, and this public sentiment will not tolerate at present, nor is it likely that its necessity can be shown in the near future.

As regards the value of institutional segregation, it must be remembered that this is the only method of combating tuberculosis which has been given an extensive trial, although it is undoubtedly the ideal method both on theoretical and practical grounds. It is our opinion that the maximum number of consumptives who can and will receive institutional treatment is about 10 per cent., and every endeavor should be made to increase the accommodations

up to this figure. This would mean in Maryland that provision must be made for the care of about 1000 cases—an increase of about 200 per cent. over the present figure. For the bulk of advanced cases who never have or never will receive institutional care, for advanced cases who have left or who have been discharged from institutions, and for a considerable number of incipient cases, legal regulation will remain the only means of protection available to the community.

THE CENTRAL REGISTRATION PLAN.

Maryland is one of the few States to adopt the central registration plan, though the proposed legislation in Maine will contain this provision. Three general plans of registrations may be considered—first, direct reports to the local health authorities, as provided in the New York law; second, a combined plan, as suggested by Dr. Vaughn, the direct report being made to the local health authority and transcripts forwarded the State Health Department at greater or less intervals; third, the central system of direct reports to the State authority, as has been done in Maryland since 1904.

The advantages of local registration in all acute diseases cannot be disputed, nor can it be denied that there are many advantages to be gained by local registration in tuberculosis. Tuberculosis is, however, peculiar among communicable diseases in the almost universal interstate and intrastate migration of those suffering from the disease. On this account proper supervision of cases which are frequently moving from one jurisdiction to another is a difficult, if not impossible, problem for the local health authorities. The whole question is also closely connected with care in State institutions, and these are the most striking advantages of the centralized system.

TREATMENT OF INTERNAL DISEASES. From the fourth edition of Dr. Ortner of Vienna. Edited by Dr. N. B. Potter of Columbia University. Price $5 net.

This is not an exhaustive treatise on practice, but an elaborate series of therapeutic comments on diseases ordinarily met with in the physician's daily rounds. The work of Dr. Ortner itself is very much up to date, and on each subject—drugs or other therapeutic agent—the editor adds at considerable length his own clinical endorsement or criticism in a most open-hearted way.

The book contains practically nothing but treatment, so that there is plenty of room in its 600 pages for a thorough discussion of each subject in a manner very satisfactory to a reader looking for help in treatment.

A strong point is the full consideration of the newest drugs and non-pharmacal agents, and where the writers recommend a combination of drugs they give the prescription in full in terms of American pharmacy. It is a rarely satisfactory book.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

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Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

THE WAR AGAINST TUBERCULOSIS.

WHILE the results of the warfare being waged against tuberculosis are encouraging, the most optimistic among us can but realize that we are just beginning our fight against this scourge—skirmishing, as it were—and that the great decisive battle is yet to be fought. That it will be a hard battle all agree, and that it will be years before victory shall at last perch on our banners even the most sanguine have to admit.

TABLE I.

Showing the percentage of deaths from tuberculosis per 10,000 population, and the percentage of deaths from tuberculosis of the total death rate from 1904 to 1908 in Baltimore:

Year.	Estimated population.	No. of deaths from tuberculosis.	Percentage per 10,000 population.	Total death rate.	Percentage of deaths from tuberculosis.
1904.....	541,000	1514	27.22	10,818	13.99
1905.....	550,000	1466	25.87	10,695	13.70
1906.....	558,000	1489	26.16	10,753	13.84
1907.....	565,000	1481	25.48	11,190	13.23
1908.....	573,000	1413	24.66	10,435	13.54

(*a*) Let us glance a moment at our armament. It consists of the State and City Boards of Health, dispensaries, the Visiting Nurses' Association, the Maryland Association for the Prevention and Relief of Tuberculosis, and sanatoria. Each is of immense value and each likewise has its limitations.

State and City Boards of Health.—These play a very important part in the prevention of tuberculosis. Our laws and ordinances received the second prize at the recent International Congress on Tuberculosis, Wisconsin receiving first prize and New York the

third. It might be interesting to mention that there is little difference between the laws of these three States and that Maryland was the first to adopt these laws.

These laws include the compulsory registration of tuberculous patients by hospitals, dispensaries, schools and attending physicians, an antispitting law and a law providing for the disinfection of premises after death or removal of tuberculous individuals. The law also provides for furnishing tuberculous patients with sputum cups, paper napkins, disinfecting solution and a book of instructions.

Both the State and City Boards of Health make free examinations of suspected sputum for physicians. That these examinations made by the bacteriological laboratory are of great value in leading to an early and certain diagnosis of the disease is shown by the following table:

TABLE II.

Showing the total number of sputa examined for Baltimore physicians, the number found positive, the number of cases of tuberculosis reported to the City Health Department and the percentage of diagnoses made from the examination of the sputa for the years 1904-1908.

Year.	Total No. of sputa examined.	No. of sputa found positive.	Cases of tuberculosis reported.	Percentage of diagnoses from sputum examinations.
1904	1187	392	478	82.0
1905	1366	537	715	75.1
1906	1568	532	733	72.7
1907	1764	517	712	72.6
1908	1932	566	745	76.2

All of these factors are useful in the prevention and stamping out of the disease, and would do far more good if it were possible to enforce the laws more rigidly; but, owing to the passive opposition of ignorance, indifference and carelessness on the one hand, and the active opposition of obstinacy and selfish interests of certain classes on the other, the health boards are constantly hampered in their efforts to enforce sanitary prophylaxis.

The Dispensaries.—The dispensaries are also doing great good not only in the recognition of early cases, which can be advised about seeking aid in sanatoria, but also by giving instructions as to diet, fresh air, exercise and general hygiene. But the dispensaries have their limitations in that the attendance is voluntary; that often the patient fails to appreciate what is being done for him, and many only make a single visit, or, at best, only attend irregularly. Again, the wage-earner is compelled to continue his work for the support of himself and family, and this class often does not reach the dispensary at all. When it does reach it this class is too far advanced to derive any of the benefits that might have accrued had it visited it earlier. For such persons a night dispensary would be a great boon.

The Visiting Nurses' Association.—Probably the work done by

this association has done more for the prevention of tuberculosis than any other one of the factors mentioned. These workers not only visit and instruct indigent patients as to the value of food, rest, fresh air and the disposal of their sputum, but they also distribute clothing, bedding and food which they receive through charitable associations. They also instruct the family of the patient in preventive measures, ferret out new or suspicious cases, make reports of cases to the State Board of Health, and report insanitary premises and houses for fumigation to the City Health Department. Their work, however, is limited, first, by the fact that they deal largely with a very ignorant and often unappreciative class, which sometimes pays little or no attention to what is being done for it; and, secondly, because they are unable to reach all the cases that need their attention.

The Maryland Association for the Prevention and Relief of Tuberculosis.—The work done by this association in educating the public to the dangers and extent of tuberculosis and giving instructions in methods leading to its prevention is too well known to need repeating. The work of the association is limited by the means at its disposal.

Sanatoria.—The Eudowood Sanatorium, as well as the new State Sanatorium, are both doing splendid work, which is only limited by the lack of space for the accommodation for more patients and funds for the maintenance of the same.

H. W. STONER, M.D.

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"STATE CARE" OF THE DEPENDENT INSANE—WHAT IT MEANS—WHAT IT INVOLVES—THE REASONS AND NECESSITY THEREFOR.

By Edward N. Brush, M.D.

Physician-in-Chief and Superintendent, Sheppard and Enoch Pratt Hospital.

READ BEFORE THE MARYLAND PSYCHIATRIC SOCIETY, APRIL 22, 1909.

IT is under this somewhat lengthy and involved title that I invite your attention to, and solicit your discussion of, matters which are in my opinion of great importance not only to the future of psychiatry in Maryland, but, and of greater moment, of grave importance to the insane who must be cared for at public expense.

At the outset, I think it should be clearly understood that, as far as concerns the majority of the insane who come under public care and are dependent while insane upon public support, the term "pauper insane" is a misnomer, and one which has no place in this discussion.

I am unable to give the statistics relating to the number following some regular profession or occupation among the insane admitted to the public institutions of this State, but it may be taken, I think, for granted that the experience here does not differ from that of other States.

From October 1, 1888 to October 1, 1907, 104,013 cases were admitted to the State Hospitals for the Insane in New York. Of these but 7820 were said to have no occupation. In 2715 cases the occupation, if any, was unascertained, and in 12,926 cases the occupation given was laborer. These figures embrace less than one-fourth the entire number; three-fourths and more (over 80,000) were following occupations requiring either special manual skill or mental training.

When, therefore, an appeal is made for adequate provision and

proper medical care and intelligent and sympathetic nursing for those of the community who by reason of the visitation of insanity are compelled to ask for public support and care, the State is not asked to lend its aid to a class of improvident paupers who have rarely, if ever, known the satisfaction of honest self-support, but to men and women who, under any other circumstances, would not ask aid, but who by reason of the peculiar conditions connected with an attack of insanity, cannot bear the burden alone. There is probably no affliction incident to human experience which imposes a greater tax upon the resources of the family in which it occurs than insanity.

The ordinary acute illnesses and the accidents of every-day life can commonly be cared for at home, and are usually in their effects of brief duration. Insanity involves a prolonged period of care. It interferes during this entire period and for sometime after recovery, if that fortunately occurs, with the usual occupation of the person attacked. It requires special means of care, and such constant observation and nursing that few households exist where an insane person can be properly cared for, having in mind the best interests of the patient.

All that is included in the proper care, medical and custodial, of an insane person creates a drain upon financial resources which can be borne for prolonged periods by but few in any community.

For the vast majority, when private aid of the charitable or of institutions intended for the indigent cannot be obtained, the care and shelter of public institutions must be sought.

If it is true, and I am, from a somewhat extended experience and a careful inquiry into the matter in other communities convinced that it is, that the larger proportion of the insane who are admitted to our public hospitals at public expense have been self-supporting, then it becomes not only the duty of the State to supply, but the right of these unfortunates and their friends to *demand* such care as the dictates of humanity suggest and the teaching of medical experience require.

These people, who have been and still are required to languish in almshouses with no definite and expert medical care or observation and only such nursing and general observation as their fellow-inmates, often tramps and paupers of the worst sort, can give them, have, when in health, either directly or indirectly been taxpayers and have contributed to the resources of a State which, let us hope, because of lack of knowledge rather than indifference and inhumanity, has permitted such a condition of affairs to exist. If public care and treatment must be sought, common, universal experience teaches us that the earlier that care and treatment is obtained the greater the expectation of satisfactory results.

Of 17,550 cases discharged recovered from the New York State hospitals, the duration of whose insanity on admission was known, 15,288 had been insane 12 months and under. In other words, 87 per cent. of the recoveries was from cases insane 12 months and under. Not but about 40 per cent. of the admissions to the New

York State hospitals were insane but 12 months and under when admitted, so that 87 per cent. of all the recoveries was drawn from but 40 per cent. of the admissions.

The necessity and the wisdom of prompt care is evident, and that prompt care for the very large majority of the insane can only be had in State hospitals.

I see that I have taken the last sub-division of my title and treated it first. The reasons are manifest. Nowhere else can that proper, immediate and intelligent care which the dependent insane man should enjoy and to which he has as much right as his more fortunate fellow-citizen who can pay for his care in the institution of his own or his family's selection, be obtained except in a State hospital or in one whose methods of care are according to a definite standard, and which is under thorough State supervision. It is now nearly 12 years since I read a paper at the annual meeting of the State Medical Faculty (the Medical and Chirurgical Faculty of Maryland), in which I pointed out the unfortunate condition of the insane in almshouses and county asylums, the total lack of any intelligent care in many instances and the urgent demand for better and more modern methods in this State.

I quoted at that time, as I have done on other occasions in urging better provision for the indigent insane in this State and elsewhere, from the work of Conolly, the apostle of non-restraint, entitled "An Inquiry Concerning the Indications of Insanity, with Suggestions for Better Care of the Insane." This work, although written nearly 60 years ago, may be read with profit today by all who are interested in the subject.

The propositions to which I refer, and to which I again propose to quote, are as follows:

"1. That no person who is not insane should be treated as an insane person.

"2. That all who are insane should be properly taken care of.

"3. That the friends of individuals who are insane should be able to procure such immediate aid as the case requires.

"4. That all who are in sound mind should feel that in case of becoming afflicted with insanity they would be protected.

"5. That every means, medical, moral and mental, will be patiently and perseveringly and scientifically employed for their restoration to sound mind."

These propositions state clearly and fully what State care means. It means, in short, laws which insure and institutions which provide for all that they suggest.

No one who has seen or who has read of the conditions surrounding the insane in almshouses, either in this State or elsewhere, and who knows what a properly-equipped and conducted State hospital is, can doubt the necessity for a change from present conditions in Maryland.

It is not a part of my subject nor is it my purpose at present to

go into details as to how this change can be brought about, nor do I propose to enter into a discussion of whether the change would involve increased expense to the taxpayers or not. This last matter I regard as of little importance. If humanity and the teachings of science and of universal experience demand State care, State care should be given without question as to the matter of dollars and cents, with, of course, due regard to economical administration of the funds raised by taxation for the support of the insane and the accomplishment of the best results.

A comparison of the cost of the almshouse system and State-care methods is impossible, for no one can tell what the cost of almshouse care, so-called, really is in actual money; what its cost is in human suffering and in wrecked lives it is also impossible to state.

Experience in other States, however, will, I think, show that the immeasurably better care in State hospitals has not, when the tax for the support of these institutions has been spread over the whole State, cost more than under the county system.

In conclusion, I am taking the liberty of quoting from a paper I read in Nashville, Tenn., in 1894:

"The application of the best means to the care of the insane implies that those charged with that care should be wholly independent of political influence or pressure. The conduct of our State and municipal institutions should be intrusted to boards carefully selected, chosen because of their interest in philanthropic work and their ability to grasp the great and constantly-broadening questions involved.

"Under the control and supervision of these boards the medical officers should, as they have the final responsibility for the medical work and its results, have supreme authority in all details of medical care and administration.

"I run the risk of tediousness, that I may insist, in passing, that not enough is done in the majority of even our best State hospitals for the insane of the acute, or recoverable, class.

"Much discussion has been expended on what is best for the chronic insane, and, I believe, lasting honor has been achieved by those States which, like New York, have resolved that none of this class shall longer languish in almshouses. But with such action comes the necessity of enlarging existing institutions and building new ones.

"I believe that, in respect to our institutions already in existence, if the land surrounding them permits, the problem is quite simple, and its solution consists in erecting annexes, built upon the most carefully-elaborated plans, for the treatment of all recent cases, and all other cases needing temporary hospital care. By carefully-made plans I do not mean to imply by any means expensive or extensive structures. Ten per cent. of the general average population of an ordinary hospital for the insane would measure the necessary

accommodation such a building should furnish. The building should be constructed for the best care of its inmates—the separation of the noisy, the sick, the destructive. Here the best talent of the medical staff should be at work, and here the trained nursing, which, I trust, we shall some day see in all our institutions for the insane, and about which we are to hear something at this conference, could do its best work. Laboratories for clinical study and investigation, among other things, of those forms of autointoxication, or defective excretion, which seem at the bottom of so many of our common forms of nervous breakdown, which terminate in insanity, would here find ample material.

"Baths, electricity, massage, would all find their proper field, and in the end the recovered patient would feel that he had been in not an asylum, but in a hospital. And that, my friends, measures the whole scope of what I would explain of this plan. A hospital in function and work and results, not in name alone, is what the State should establish. In such hospitals clinical study and instruction could be established, so that our youg medical men could not say: 'I was never taught anything about insanity. I know of no place where I can study it,' as they are now compelled to say.

"It is possibly an ideal system which I have hastily and imperfectly sketched, but the ideal is, I believe, capable of realization, and is certainly worth striving for. By such means can that condition laid down in Connolly's fourth proposition be attained. If we are to turn aside the tide of insanity, which is yearly rising higher from accumulation, from the large and regular importation of cases from foreign shores, and arising as the result of the rush, bustle, worry and dissipation of modern life, we can only do it by the best care, the best attention, and the most careful study of the disease in its acute stages and curable forms. As the result of such study, it may well be that forms now regarded as hopeless will be added to the recoverable list."

What I outlined as desirable 15 years ago in the way of clinical teaching and opportunities for clinical study in psychiatry is about to be accomplished in Baltimore through the wise generosity of Mr. Phipps. It is, I think, a safe prediction to make to assert that the work in the Phipps Clinic will prove a stimulus to all who are engaged in the care of the insane. The opportunity which will be available for co-operation and correlation of work between the Phipps Clinic and the incorporated and public institutions for the insane in the State seem to me to be ideal, and the very fact that such opportunity will exist should stimulate the State authorities to prompt and effective steps to take the best advantage thereof.

I am sure that the director of the Phipps Clinic and his staff of assistants will gladly do everything to aid in promoting the best standard of care of the dependent insane in the State, but they can only do so when the State does its duty in providing adequate provision in the way of increased hospital accommodation for those who so manifestly require that care, who now are too often the victims of indifference and neglect.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, MAY, 1909

ROGER BROOKE, M.D.

Oh, why has worth so short a date? It is only the loss of such a man as Roger Broke that can teach his mourners—who comprise all who knew him—what was his real value to the people among whom he lived. It is no disparagement to those who are left to say that there is no other person in the entire neighborhood who could so ill have been spared. As a citizen he performed his full duty, taking a prominent part in measures for the benefit and uplift of the community; as a man he won the respect and warm friendship of a large circle, always being guided by what he believed to be right; as a husband his life for nearly forty years was the highest type and example of consistent devoted love; as father and grandfather he combined wise counsel with affectionate tenderness, so that the grief of his children may well be tempered by thankfulness that they are sons and daughters of such a parent; as a true follower of Christ he was a comforter to many in their hours of bereavement by his words of deep feeling and simple eloquence, while his sincere religious nature was shown in all church work; as a physician—though he did not take up that vocation until comparatively late in life, and against the advice of nearly all his friends—his success was marvelous. I do not speak of that poor sort of success which is measured by dollars and cents, but *real* success, manifested by saving lives, relieving suffering and distress, and making the world better and happier because of his having lived in it. How many families have had intense anxiety changed to comfort and reassurance by his efficient ministrations, and with what forebodings we now face the future! The martyr's

crown grows dim and lusterless, the hero's wreath fades and withers compared with such services as he rendered during his long years of practice. Perhaps the exposure during the stormiest night of last winter may have hastened his end, but there was no more thought of failure to respond to the call of duty than if he had been a patriotic soldier on a battlefield.

It is not for us weak mortals to understand why a life so full of usefulness in so many varied fields should be stricken down when hardly beyond its prime. We only know that "God's finger touched him and he slept." A. F.

THE NEW LIBRARY BUILDING.

By the formal dedication of the New Library Building, May 13, 1909, the aspirations of the representative members of the Medical and Chirurgical Faculty, past and present, for a home worthy of the profession have at last been gratified. During a more or less precarious existence of more than one hundred years the Faculty has never until the present decade found itself strong enough to own a home worthy of its dignity.

The magnificent quarters just dedicated are well apportioned, the furnishings substantial, and the stackroom, which, when full, will hold 60,000 volumes, is fireproof—a safe guarantee that all books donated to the library will be secure from loss by fire.

All hail to those self-denying men who have by their persistent endeavors and labors rendered this building a reality! To everyone who contributed to the building fund much credit is due, but particularly is praise due to the presidents of the Faculty during the years 1900 to 1909, who persistently agitated the question.

The question now arising is whether the annual dues of the members will be sufficient to meet the running expenses and the various other undertakings of the Faculty. A permanent endowment fund, the interest of which should be applied to miscellaneous expenses, should be raised at once. Let someone agitate this, and success is assured, for "to him that hath shall be given" is as true here as in other walks of life.

Medical Items.

Dr. and Mrs. Roland Whitridge will spend part of the summer in Spain.

Dr. and Mrs. Lewellys F. Barker will leave for several months in Europe early in July.

Dr. and Mrs. Thomas S. Cullen will spend the summer in England and Ireland.

The new building of the Phipps Dispensary for Tubercular Patients, Johns Hopkins Hospital, was opened May 3.

Dr. J. A. Chatard announces the removal to his new residence, 1225 Maryland avenue, corner Preston street, May 1.

Dr. C. Canby Robinson of Philadelphia, who has been abroad studying for the past year, was the guest of his mother in Baltimore recently.

The fourth annual banquet of the Pennsylvania branch of the General Alumni Association of the University of Maryland was held in York, Pa., May 1. The address of the evening was made by Dr. Eugene F. Cordell of Baltimore.

There is an excellent opening for an active physician at Sandy Spring, Md. Full particulars can be obtained by addressing either Mrs. Brooke, wife of the late Dr. Roger Brooke, at the above address, or the editor of the Maryland Medical Journal.

The coming meeting of the American Medical Editors' Association will be held at the Marlborough-Blenheim Hotel, Atlantic City. This is the fortieth anniversary of the association, and an unusual program has been prepared for the occasion. Many delegates from the foreign medical press are expected.

An effort is being made to raise a mortgage on the home of Mrs. Carroll, the widow of Major James Carroll. Mrs. Carroll was left with seven small children, and the pension granted her by Congress is entirely inadequate to meet their needs. All funds for this purpose should be sent to Major M. W. Ireland, U. S. A., War Department, Washington, D. C.

During July and August the *Medical Era* of St. Louis, Mo., will issue its annual series of issues devoted to gastrointestinal diseases. The July number will take up the usual bowel disorders of hot weather and the August number will be devoted entirely to typhoid fever. These issues always attract considerable attention. The editor will forward copies to physicians applying for same.

The Atlantic-Yukon-Pacific Exposition will open on June 1. The managers announce that they have a modern-equipped Emergency Hospital and have set a room aside for visiting physicians, where they may receive their mail and write letters, and ask that we announce to our readers that any physician visiting the exposition may have his mail sent care of the Emergency Hospital. Copies of the Maryland Medical Journal will be found at all times upon the reading-room table in this hospital.

MARRIAGES.

Arthur Marriott Shipley, M.D., University of Maryland, '02, was married on May 6 to Miss Julia Armstead Joynes of Baltimore.

Lloyd W. Stephenson, M.D., Washington, D. C., was married on April 20 to Miss Mary Virginia Haswell of Baltimore.

Andrew Colin Gillis, M.D., College of Physicians and Surgeons, '04, was married on May 9 to Miss Bertha Fischer of Baltimore.

Among the coming weddings of medical men we note the following:

Walton H. Hopkins, M.D., University of Maryland, '04, of Annapolis, to Miss Lila Holmes Trenholm of Baltimore, on June 23.

Gordon Wilson, M.D., University of Virginia, '99, to Miss Elizabeth Preston Elliott, both of Baltimore, June 5.

Karl P. Heintz, M.D., of Cumberland, Md., to Miss Mora Weber Shepherd of Cumberland, June 16.

Joseph Kent Worthington, M.D., to Miss Mary Worsdale Spencer of Baltimore, June 7.

Thomas Lee McCarrier, M.D., of Baltimore, to Miss Myrtle Edna Bream of Gettysburg, Pa.

DEATHS.

Roger Brooke, M.D., University of Maryland, '87, at his home in Sandy Spring, Md., May 9, aged 62 years.

Christian M. Schulte, M.D., at his home in Baltimore May 5, aged 58 years.

C. P. Bryan, M.D., Jefferson Medical College, Pa., '05, at Ronceverte, W. Va., May 2, aged 82 years.

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Book Reviews.

General Surgery. Lexer-Bevan. A Presentation of the Scientific Principles Upon which the Practice of Modern Surgery Is Based. By Ehrich Lexer, M.D., Professor of Surgery, University of Königsberg. American edition edited by Arthur Dean Bevan, M.D., Professor and Head of the Department of Surgery, Rush Medical College, in affiliation with the University of Chicago. An authorized translation of the second German edition by Dean Lewis, M.D., Assistant Professor of Surgery, Rush Medical College, in affiliation with the University of Chicago. New York and London: D. Appleton & Co. 1908.

In the introduction to the translation of Sienkiewicz's "Without Dogma" the publishers say that each reader will find some trait of himself reflected in the character of the dilettante skeptical hero. Dr. Bevan also might have paraphrased in his introduction—every surgeon will find some idea of his own put on sound principles in this book.

The American surgeon and teacher has not written much on the principles of his science; his trend has been rather toward the practice of his art. Most of our books are more concerned with technique than philosophy. This is the result of the demand for the practical. The cry of the profession has been, "Tell us how you do it," rather than, "Tell us why you do it that way." For this reason the knowledge of the principles of surgery has been imparted in a great measure by word of mouth. It is a well-understood fact that of a mass of information imparted in this manner, however attentive the listening ears may be, parts of the wisdom get away and leave only vague impressions on the memory. In later years fortuitous circumstances develop the vague impression into a full idea and in some surgery a principle is rediscovered. This is the first effect of the Lexer-Bevan book. In reading it we find many of the things we have once known indistinctly and uncertainly clearly brought out and firmly fixed. Talking with several teachers about this book, while none had ever read Lexer, each of them was able to point out something in the text or arrangement that gave the same teaching he had used in his classes for several years.

Throughout the entire book we find excellent advice. In the general treatment of wounds care of the tissue is insisted upon and the value of careful handling shown. The indications for the use of drains of various kinds, moist and dry dressings, are well discussed. The value of iodoform gauze to stimulate granulation tissue and form adhesions is brought out clearly.

The chapters on aseptic technique are very good, and emphasize especially the great value of alcohol in preparing the skin. The use of rubber gloves is commended and their advantage pointed out in a way to convince the skeptical as well as to refute the arguments of their opponents. The paragraph on the care of the hands should be drilled into every interne and nurse who enters a surgical clinic. We have too often noticed the hands of nurses and assistants so rough with cracks and discolored from lack of care that no amount of scrubbing could make them even macroscopically clean.

The very simple method of sterilizing catgut by heat in alcohol, used at St. Agnes' Hospital, Baltimore, is not given. We have tested this method thoroughly, both experimentally and clinically, and find it is absolutely perfect.

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thesia is recommended, especially in alcoholics. This will be found a great advantage in all cases, lessening the quantity of ether required as well as the post-operative discomfort.

One of the best portions of the book is that on the General Discussion of Plastic Operations.

Bier's hyperemia in the treatment of acute inflammation is given a separate chapter. The differential count, however, is not mentioned in the discussion of leucocytosis.

Great popularity is predicted for this book. It is full of good things and the additions of the American editor have materially increased the value of this edition over the German. In the general commendation we hope for certain changes when a second American edition comes to be issued, namely, that Dr. Bevan will insert his own teaching concerning the diagnosis of malignant tumors in the place of the translation of the "Example of the Method Employed in Making the Diagnosis of a Tumor." Certainly a student should be taught to recognize carcinoma of the breast before the stage of ulceration; but, on the other hand, he should not be taught to aspirate small fluctuating areas in a suspected sarcoma.

The translation by Dr. Lewis is well done. A very few Teutonisms have slipped by the editorial censorship, but they may easily be overlooked in the general good quality of the English.

We again repeat our confidence in the book's popularity. Teachers, practitioners and students alike will welcome its advent. A book of this character supplies a long-felt want. Therefore all of us owe a debt to Dr. Bevan and to Dr. Lewis for making Lexer's work available for those who do not read German.

An Alabama Student and Other Biographical Essays. By William Osler, M.D., F.R.S., Regius Professor of Medicine, Oxford; Honorary Professor of Medicine, Johns Hopkins University. Oxford University Press. 1908.

In this volume Professor Osler has collected a number of his biographical essays, beginning with that of John Y. Bassett, "the Alabama Student," from which the title of the volume is derived. By the way, Dr. Bassett was a graduate of Washington Medical College of this city, and one of his letters, here quoted, tells of his being here in December, 1835, and applying to the institution for a certificate to replace his lost diploma. Besides Bassett's, we have memoirs of Drs. Elisha Bartlett, William Pepper and Alfred Stillé; of Thomas Dover, the Buccaneer, who gave his name to the powder; of John Locke, the philosopher; of John Keats, the Apothecary Poet; Fracastorius, the author of the poem "Syphilis," and Oliver Wendell Holmes, poet-anatomist; of Beaumont, the Backwood Physiologist; of Louis and his influence on American medicine, and of Harvey and his discovery.

The memoirs are all deeply interesting; but to some of us that of Elisha Bartlett will have a more personal interest, because of his having once filled a professor's chair in this city. Of similar significance are the relations of Prof. Joseph Roby and Oliver Wendell Holmes, and of Prof. William Power and Louis.

Professor Osler has a high opinion, and justly, of the value of biography as a factor in education, and it is fortunate that he has turned his attention in this direction, for he has a genuine appreciation of all that is noble in life and achievement, and presents it for our encouragement and emulation in such a style as to make it deeply impressive.

Many interesting incidents are interspersed throughout the memoirs, as,

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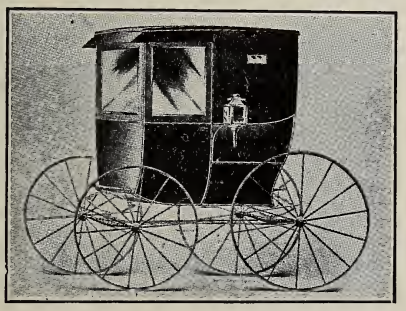

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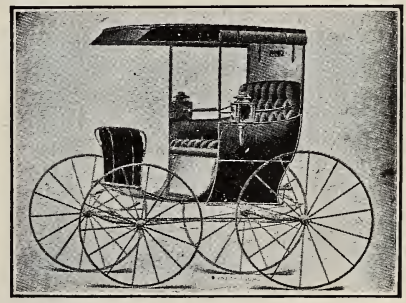

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for instance, the account of the discovery by Dover upon his lonely island of Alexander Selkirk, the original of Robinson Crusoe, and the allusions to Granville Sharp Pattison and Nathan R. Smith, by Alfred Stillé and Elisha Bartlett. We will not extend this notice with extracts, but will advise all to read the volume entire.

It is preceded by a frontispiece of Dr. Bassett and is dedicated to Prof. William H. Welch, "whose unselfish devotion to science illustrates the spirit that in every age has made medicine of service to humanity."

Rhythmotherapy. By Samuel S. Wallian, A.M., M.D. Chicago: The Ouellette Press. 1906. Price $1.50.

A queer sort of book. We can hardly take it seriously from a scientific or therapeutic standpoint, yet it seems so intended. It purports to be a handbook of mechano-vital vibration, yet into the middle of it is thrown a treatise on diet, and the directions for treatment, which compose the latter half, seem rather indefinite and half-hearted. The first part of the book, on nature, as an epitome of rhythmic reiteration, is rather fine as illustrating the involved sentence in its most attractive form; not the dreary obfuscated idea of Henry James or Mrs. Eddy, but the melodious collocation of very long and pompous words in a way perfectly reasonable, yet most impressive to the awe-struck hearer:

Health is a sequence of harmonious vibration. (Certainly.) The vital cycle includes molecular, or ethereal, bioplasmic and structural vibrations, resulting in plant or animal, these differing only in the pitch and wave-length of the vibration. (Quite clear.) It is impossible that this corpuscular, ionic or ethereal iteration of motion could be suspended for one moment, else Nature herself would drag her anchors and Order would be swallowed up in the ancient sea of Chaos. (The mere mention is sufficient.) Given a modicum of dust, add an electric thrill; result, a Cell. A second thrill eventuates in cell propagation. The cell changes its destiny with each change in vibratory velocity. A certain rate begets a Vermis; a higher rate produces a Viper, a Vertebrate—a Vestryman. This obviates the need of a mythical Missing Link. The material universe, let is be reiterated, is itself a realm of associated, rhythmically revolving and vibrant nuclei. (This is grand.)

We can imagine that a discourse from a rhythmotherapeutist, in such terms, delivered rapidly in the best style of a sample man, might well make a nervous patient forget his ailments.

Intestinal Auto-Intoxication. By A. Combe, M.D., Professor of Clinical Pediatry at the University of Lausannes, Switzerland, together with an appendix on the lactic ferments, with particular reference to their application in intestinal therapeutics, by Albert Fournier, formerly demonstrator at La Sorbonne, Paris. Only authorized English adaptation, by William Gainor States, M.D., Clinical Assistant Rectal and Intestinal Diseases, New York Polyclinic, with 18 figures in the text, 4 of which are colored. New York: Rebman Company, 1123 Broadway. 1908.

This octavo volume of 500 pages is very interesting reading both to the laboratory worker and to the therapeutist. It attempts to show scientifically the causes of those digestive poisonings which have long been believed by the general practitioner to underlie so many of the acute and chronic

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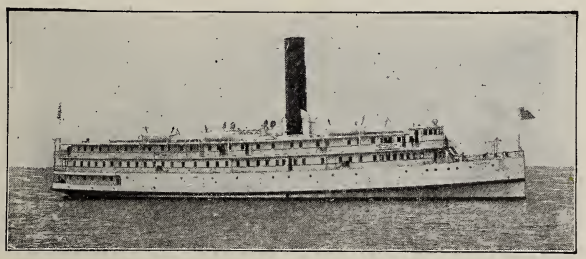

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diseases with which he meets in his office practice and on his daily rounds. A very great number of subjects are discussed: The transformation of albumen in the intestines and its products, toxic and non-toxic; the factors which normally limit intestinal putrefaction; the triple line of defense of the body against them; the natural channels of their elimination. A chapter is devoted to experimental pathology, the causes which in disease augment the production of intestinal poisons, and those which diminish it are then discussed.

As we turn the pages, the interest ever increases. We advance to the consideration of the symptoms which attend intestinal auto-intoxication, its diagnosis through the faeces, the blood, the urine, the liver action. Finally the treatment is taken up at great length, the various foods and medicines, the ferments of milk, of yeast, of grapes and those of tropical origin which combat putrefaction, the methods for weakening the action of the injurious microbes, the methods for removing them, the methods for stimulating the anti-toxic organs and the body emunctories; the treatment by sun rays, by bathing, by mental influences and finally by purgation.

The Sexual Question. By Dr. Forel.

We have donated our review copy of this book to the library of the Medical and Chirurgical Faculty. It is adapted only to the professional mind. There are a few clever things in it from a strictly psychological point of view. It is not suitable for public use.

There is a strong tendency of the human mind to pay too much attention to sexual details; we doubt whether enlightenment of the public on them does good. The religious cults of ancient days devoted to sexual worship did not purify humanity. Ancient tolerations of sexual perversions did not give better results than our modern loathing thereof. The loathing of the unscientific mind against bestiality is, we still maintain, a wholesome instinct, good to preserve. The study of sexual dangers by our youth does not restrain the medical student much, and it is questionable whether in schoolbooks it would restrain the youth of the laity.

About the best we can do to restrain loathsome sin is to keep it out of public sight, so that it can ordinarily harm only those who go after it. In spite of alarmists, the person who minds his own business is reasonably safe in this community.

Contrary to our author, we believe that genuine religion of American types is a tremendous control force, refining and restraining our youth and purifying the home. The mother and father who keep in touch with their children and win their reverence are their true guardians in these matters. The old-time family physician helped much. Our young men seem to go wrong largely from alcohol, luxury, delayed marriage and loneliness. These are true points of attack.

The cozy home and the loving wife and the little children are worth more than volumes of scientific disclosures directly to the laity.

Conservative Gynecology and Electro-Therapeutics. By G. Betton Massey. Sixth edition, revised. Philadelphia: F. A. Davis Company, 1909. $4 net.

The value of this treatise to physicians is best proven by the number of editions which have been put forth. Its aim and scope may be seen from a

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glance at some of its headings. These include the following topics: The Border Line Between Neurology and Gynecology; Treatment of Cancer by Cataphoric Sterilization; Static Electricity; High-frequency Currents in Gynecology. Chapters are also devoted to the applications of non-surgical, especially electrical, treatment in other familiar disorders of women. The book is well written, full of personal clinical observations and beautifully illustrated.

Arteriosclerosis: Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis and Treatment. By Louis M. Warfield, A.B., M.D., Instructor in Medicine, Washington University Medical Department, St. Louis; formerly Medical House Officer, Johns Hopkins Hospital. With an introduction by Dr. W. S. Thayer. Eight original illustrations. Price $2. St. Louis: Medical Book Company. 1908.

Arteriosclerosis bids fair to become the great American disease. The clubman, living high, will get it from his excessive food and alcohol, and the poor man, striving to become a man of leisure, will get it from his worries. Besides, it is becoming the thing to have arteriosclerosis, and many cases of the spurious sort will be found in the community, just as has been true of malaria and rheumatism. The duty of the physician, therefore, will be not only to detect the true disease, but to differentiate the false.

For these reasons it is right timely to have in the office a little volume like that before us, limited to this one subject and representing the views of our great Baltimore school concerning it.

Dr. Warfield is to be congratulated on his excellent work. It is a pity that the publishers should have prefaced with such an unattractive title page a well-printed and beautifully bound book. Possibly the fault is in the paper We hope that in the next edition the general appearance will be altogether in keeping with the contents.

Saunders' Pocket Medical Formulary. By Wm. M. Powell. Ninth edition. Philadelphia: W. B. Saunders Company, 1909. $1.75 net.

A handy book for pocket or office drawer. Looks like a visiting list. In addition to the ordinary contents of books of this class some 20 pages are devoted to surgical cautions, arranged under the regions treated. There are several pages of directions for preparing antiseptic solutions and dressings. Among the formulas are included many of the drugs more recently introduced, the physician as well as the patient often needing a change from old ruts. The book is excellent.

Anatomie und Mechanismus der Skoliose. By Dr. Carl Nicoladoni. Urban & Schwarzenberg. 1908.

This book is written in German, and, while not advancing any new theories, gives a comprehensive description of the different phases of the disease. It is printed on heavy plate paper, and contains many handsome cuts, which are bound separately from the reading matter and enclosed in a pocket formed in the back cover of the book. The unique style of binding is attractive.

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MARYLAND

MEDICAL JOURNAL

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Vol. LII, No. 7 BALTIMORE, JULY, 1909 Whole No. 1094

SANITATION ON THE ISTHMUS

By A. K. Bond, M.D.

Swift and silent are the onward surgings of history! So swift that in one short lifetime a new world may be shaped! So silent that unobservant thought, fixed upon the foaming surface, may fail to note the great currents beneath until all has been accomplished! Then men look back, and wonder!

A ship is blown up in a friendly harbor! Two nations fill the world with the clash of war! Few perceive that issues centuries old of race method in education, in religion and in science have, in the turmoil, been forever decided!

A canal about 50 miles long is attempted—and in the digging, amid disputes of method and policy, the way is found that will open to settlement by progressive white men the vast lands of the tropics, fertile beyond description, untouched by agriculture since the foundation of the earth. With the control of yellow fever and malaria, now easily within our grasp, declares Dr. Gorgas, "life anywhere in the tropics will be more healthful for Anglo-Saxons than in temperate zones. White races will settle in the tropics, which are the most fertile regions on earth, forming there great centers of civilization and population."

THE ISTHMUS.

The old thoroughfare of Spanish trade between the Atlantic and Pacific ran from the town of Colon on the north to the town of Panama on the south, a pathway wide enough for pack animals, once paved smoothly with cobblestones, but now in a state of disrepair similar to certain old city streets nearer home. The first 15 miles of the way lies through swampy lands; the remaining 30 miles, through a region of low mountains.

Louis Napoleon in 1848 described it as "marshy, unwholesome, desolate, uninhabitable; 30 miles of stagnant waters and barren rocks;" but Dr. Gorgas has recently declared that the locality is not naturally unhealthy, being on the whole a pretty attractive country, with pleasant climatic conditions. Colon was built in a swamp, had no sewerage system, and no water supply except from rainwater cisterns, of which there were several to each house; and during the four consecutive rainless months this water, of course,

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INSTALLMENT OF NEW WATER AND SEWER SERVICE UNDER DIRECTION OF DEPARTMENT OF MUNICIPAL ENGINEERING OF THE CANAL ZONE.

lay unreplenished. Panama, on the Pacific, stood on high, well-drained ground, but was cisterned in the same way.

FRENCH EFFORTS.

The philosopher Goethe said in 1827: "It is absolutely indispensable for the United States to effect a passage for merchant and war ships, and I am certain they will do it;" but the United States was slow to act, and down to the end of the century was still debating the desirability of a route through other districts of Central America. To France belongs the honor of initiating actual work upon the canal.

Vicomte Ferdinand de Lesseps had when in his sixtieth year received highest honors in France for his success, after 10 years of labor, in completing the Suez Canal, the original conception of which had been suggested to him while reading the memoirs of Napoleon Bonaparte's chief engineer in the Egyptian expedition. Eleven years later, in 1881, he undertook the digging of a canal across the Isthmus of Panama. After two years of preliminary labors he predicted that his sea-level canal would be ready for ships in five years, but in 1888 his company was bankrupt.

Eiffel now undertook to finish the canal, building it above sea level, with eight locks. In 1893 De Lesseps, Eiffel and other directors were condemned as swindlers and sentenced to fine and imprisonment. Of the $300,000,000 invested, more than half had been stolen or used in bribing public men. As many as 15,000 laborers had been employed at one time on the work.

THE FEVER.

When we enquire why such a wealthy and energetic company failed, we are relieved to learn that until the beginning of the present century it was not possible for anyone to succeed. It was disease, not dishonesty, that wrecked the French enterprise. Not the tropical situation of the canal—for Suez is likewise in the tropics. Not the presence of hills—for these can be dug down in the time computed. Not the death rate directly—for it was small when the French ceased from work. The dread of yellow fever, an American disease, was what paralyzed the undertaking. French people well knew what yellow fever can do in epidemic form, for in the attempt to conquer Haiti in 1802 General Leclerc and 22,000 out of his 25,000 French soldiers had died of it in one season.

Year after year, with brief intervals, it appeared in the midst of the employes at the Isthmus, killing many and so debilitating and frightening the others that little good work could be done. When it had attacked every one on the Isthmus, the survivors, though enfeebled, were immune, and it lay low until a fresh company of employes arrived, when it attacked these with its former deadliness. Less alarming, but perhaps as fatal in the long run, malarial fevers of divers sorts sapped steadily the strength and energy of the force. Beri-beri and a few other tropical diseases did skirmish work among the employes of color.

The French were simply contractors, living and laboring in a

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BEAUTIFUL ENTRANCE TO ANCON HOSPITAL, PANAMA.

country governed by Colombians according to sanitary ideas several centuries behind the times. They had no efficient means for combating fevers, and no authority to apply these if they had been known. As the statistics of the French company were drawn exclusively from their hospitals, and as each contractor had to pay a dollar a day for hospital care of his employes, it is certain that there was much more illness and death to frighten the men than ever appeared on record.

AMERICAN CONTROL.

There are points reached in the progress of events which of old were known as "the fullness of times," and more recently have been designated as "psychological moments," at which efforts beforetime necessarily fruitless become easily successful. It was at one of these era-moments that the United States, through no forethought of its own, fell heir to the French enterprise in the Isthmus. Although the opportunity was timed by other than human forethought, the nation which seized it had prepared itself by earnest scientific work for the solution of problems there to be encountered. This preparatory work had just been carried to completion in Cuba, where Havana, a perennial center for the spread of yellow fever to other parts of our hemisphere, had been for two years kept free from its deadly plague.

WORK IN CUBA.

When the Americans took military possession of Cuba, in 1898, it was evident that every effort must be made to protect our soldiers from the tropical diseases there prevalent. The humorous advice given to our departing boys in blue to keep their feet dry and stay in out of the night air could hardly be practicable. Quinine and general sanitation protected in some degree against malarias, but the necessity of immediately removing regiments from the neighborhood of places which became infected by yellow fever was quite ruinous to military strategy. For two years the army medical staff used every means known to free the island from yellow fever, establishing the most rigid sanitary control; but the fever increased steadily.

DR. FINLAY'S CLUE.

Learning through failure, as only wise men learn, the lesson of humility, our sanitarians began to pay attention to the claim of a local Cuban physician, that he had already found the agent of yellow-fever infection. This Havana practitioner was Dr. Carlos Finlay (variously entitled in our journals Dr. Charles Finlay and Dr. Coles Finlary), a graduate of Jefferson Medical College, Philadelphia.

Twenty years before the American occupation he and his coworker, Dr. Delgrado, had stated in *La Enciclopedia* of Dr. Gonzalez that they had isolated the yellow-fever germ, and that a particular mosquito was an agent through which the disease might be transmitted. Along this line Dr. Finlay had continued to work ever since. Once at least he had made a mosquito bite a yellow-

fever patient, and afterward a non-immune, who demanded a protective inoculation; but no others applied, and he did not think it right to thus expose unwilling persons.

This patient, bitten two days after the infection of the mosquito, escaped the disease. We now know that the yellow-fever germ must be developed within the mosquito for at least 12 days before it can convey the infection.

AMERICAN TRIUMPH.

A board of American army officers especially detailed for the purpose—Drs. Reed, Carroll, Lazear and Agramonte—took up the

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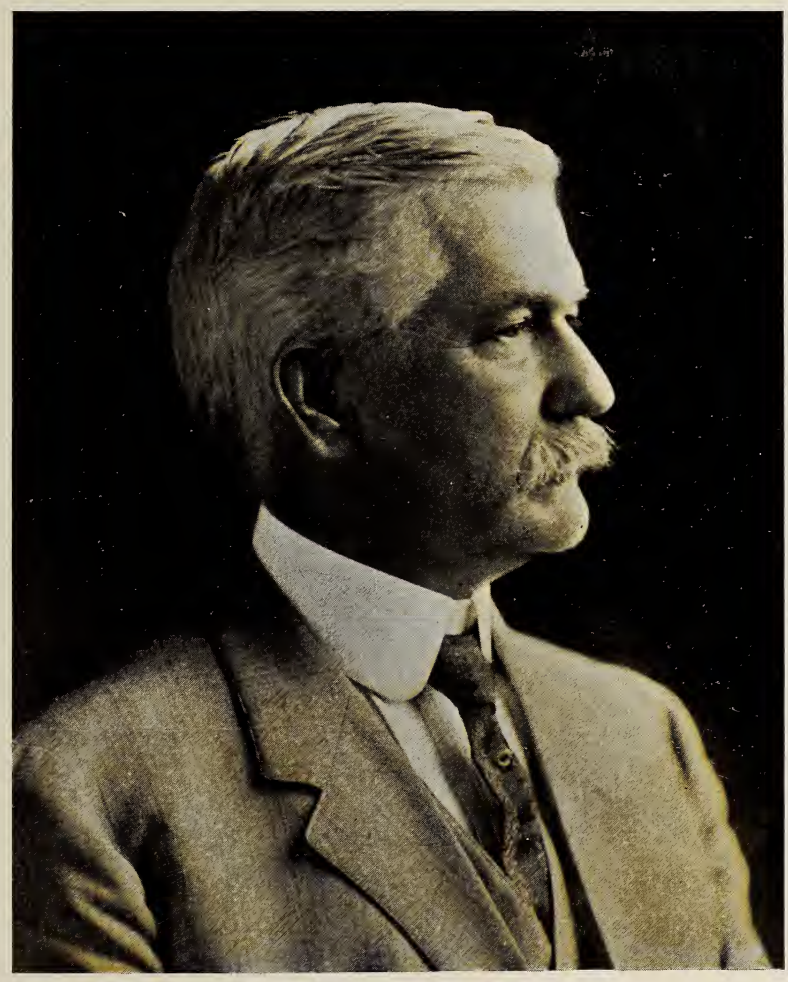
QUARTERS OF CANAL WORKERS, CRISTOBAL, PANAMA. IN THE DISTANCE CAN BE SEEN MEN AT WORK IMPROVING THE SEWERAGE SYSTEM, PUTTING IN NEW CONCRETE GUTTERS, ETC.

suggestion of Dr. Finlay and demonstrated that yellow fever is spread in communities of non-immunes by one agent only—the stegomyia mosquito. Men who volunteered for the demonstration packed and unpacked clothing soiled with yellow-fever discharges, slept in the fouled beds and underwent other exposures, in the absence of this mosquito, with impunity. When they let themselves be bitten by infected stegomyias, however, they took the fever.

Not to be outdone in heroism by laymen, the doctors offered



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Wm. C. Gorgas

FRONTISPIECE
MARYLAND MEDICAL JOURNAL
JULY, 1909

themselves also for this perilous test, and three at least gave their lives for mankind. Dr. Lazear, a Baltimorean well known to many of us, and Dr. Myers, a British investigator, died during the tests; and Dr. Carroll's health was so injured that he has since died. That these sacrifices of life were not foolhardy will be evident if we reflect that, could such volunteers have been found, the problem of yellow-fever prevention might have been solved 20 years ago by Dr. Finlay. We owe a memorial to these noble men.

DR. GORGAS.

From his work in Cuba Dr. W. C. Gorgas came in the spring of 1904 to the post of chief sanitary officer of the Isthmian Canal Zone, with full confidence that he could quickly clear the Zone of

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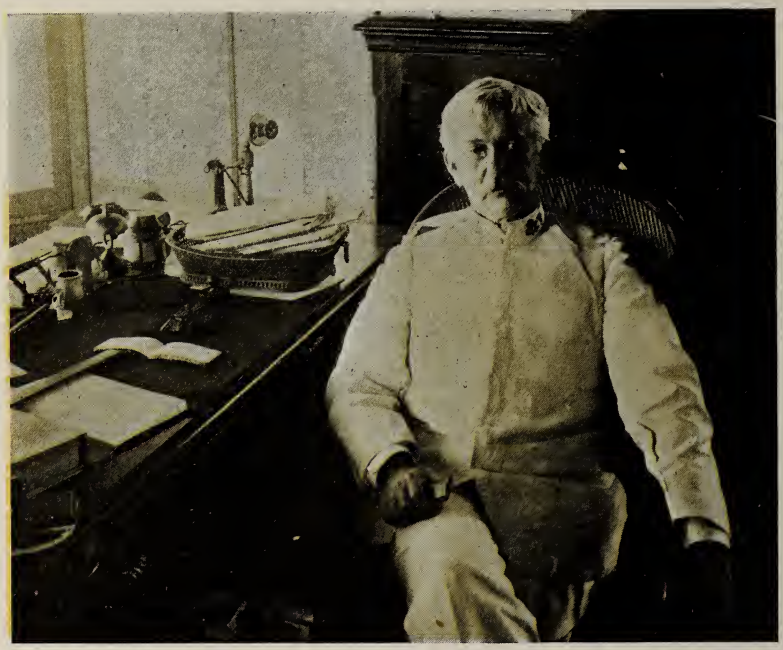
THE NEW PANAMA, WITH ITS MODERN BRICK PAVING.

yellow fever. The stegomyia is a city mosquito, haunting the crowded dwellings of men, breeding chiefly in rainwater barrels, house gutters and wells. Only infected mosquitoes are dangerous. Therefore, the method found successful in Havana, of screening the sick and fumigating infected houses, should do the work in a few weeks.

After nearly two years of most strenuous effort, with careful districting, a force of 400 fumigators in Panama alone, who went over the whole town three times and, beside this, fumigated immediately every block in a house of which a new case appeared; the burning of about 200,000 pounds of pyrethrum and 400,000 pounds of sul-

phur, besides other fumigants, and a vast expenditure of money, the infected stegomyia and the yellow fever were still doing business as before the proud American came.

There was incipient panic on the Isthmus. What if yellowjack should get loose among those 30,000 non-immunes whom we had assembled there! The work of digging lacked wise and energetic oversight, for intelligent Americans declined appointment, and those already on the Isthmus had early calls to home engagements. The patient taxpayer was beginning to sit up and take notice, and Dr. Gorgas was in despair.



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COL. W. C. GORGAS, U. S. A., AT HIS DESK IN THE NEW SANITARY DEPARTMENT BUILDING, PANAMA.

REORGANIZATION.

But Uncle Sam, like John Bull, fights best after defeat. While retreating he plans new battles. A reconsideration of the problem in the Isthmus revealed the causes of failure. Greater powers were given to the sanitary officers. Trained sanitarians were employed instead of the native physicians. It was decided that, instead of warring with only infected mosquitoes, *all* mosquitoes of the stegomyia family must be extirpated.

To this end all possible breeding places were destroyed. Cisterns and water vessels were screened or emptied. Gutters were concreted. Better still, subsoil tiled ditches were laid. After the

extremely prolific breeding of the stegomyia had been thus reduced, fumigation began to prevail against the epidemic force of the yellow fever. The outlook began immediately to brighten, and the enheartened workers on the canal began to "make the dirt fly" in earnest.

In Panama and Colon the stegomyia mosquito has been almost exterminated. A watchful quarantine is maintained against places outside of the Canal Zone where sanitary liberty of the Spanish-American type is still maintained.

Very similar results have incidentally been obtained against anopheles, and malaria has appreciably lessened.

The authorities have actually the power to fine heavily every citizen on whose premises they find mosquito larvæ.

In country districts the anopheles is the disease-bearer to be feared, breeding in clean water where grass and algæ grow. Fortunately it partakes of the general tropical indolence, not boarding the land-breeze special for the seaside, like our New Jersey species, but idling about its own natal pool. The destruction of all breeding places within 200 yards of camps and residences is, therefore, a sufficient protection against malaria.

Nothing new has been developed in the treatment of these fevers. Yellow fever is still treated on expectant principles. [It may be remarked in passing that, by application of the methods devised by us in Cuba and Panama, yellow fever has been brought under control in the two remaining centers from which its epidemics have ever originated—Vera Cruz, in Mexico, and Rio de Janeiro, in Brazil.]

Pneumonia has recently been quite frequent and fatal among the workmen on the Isthmus.

At the last news from Dr. Gorgas the health of the Zone was the best since our occupation, and there was no yellow fever, plague or smallpox.

The medical profession should appreciate that rare combination of personal courage, administrative power, quick understanding and scientific skill which has enabled our army physicians to face a great plague in its deadliest haunts and rob it forever of its terrors.

A STUDY OF SOME PHASES OF FAMILY PSYCHOSES.

By John Gerald Fitzgerald, M.D.,

Harvard Medical School.

Formerly Clinical Director-Pathologist, Toronto Asylum; Demonstrator in Psychiatry University of Toronto.

READ BY TITLE AT THE MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION

This study was undertaken with the view of ascertaining if possible whether any relationship existed between the varieties of mental disturbance arising in members of the same family; whether a psychosis arising in several children of the same parents would be the same in the various children, and whether the children

would develop a psychosis which would in its chief characteristics take place with the mental disease from which the parent had suffered.

If it is true, as has been suggested, that certain individuals and families have definite mental diatheses, even as they have a physical body of a certain make-up, which is peculiarly susceptible under unfavorable conditions to the development of disorders that are more or less characteristic, enabling one to say in advance that a member of a given family is liable to develop rheumatism, heart trouble, cancer, etc., similarly one should be able to say in advance that a member of a given family is likely to develop a mental disease of a certain type. The exact etiologic significance of the hereditary predisposition or the inherited weakness and the liability of the chemical machine to be disturbed by unfavorable influences in the environment are not clearly understood, and, since it is so, speculation is rife in regard to these matters.

One of the chief difficulties in a study at the present time is brought about because of the transitions through which psychiatry has passed and is passing at the present time. The variability in the terms used to describe conditions which are often of a similar character, and at times the use of bare, descriptive phrases which leave one in doubt, make it extremely difficult for the investigator to be sure what he is dealing with would correspond with his own view of the given condition.

I have thought that, in order to give as clear and at the same time as concise an account of this study as lies within my power, it would be well to deal with the material as I have gone over it, leaving any conclusions or inferences until a little later. The literature on the subject has not, for the greater part, been accessible to me, and I am uncertain whether the fundamental features which I wished to investigate have been the subject of earlier studies or not. The cases herein described have been patients in the provincial hospitals at Toronto and London, Ontario, and I believe that had I been able to study the question in an institution where the admissions were from more circumscribed districts, where the admissions often come from comparatively few families, these results might have been different.

The first group with which I wish to deal briefly is made up of the patients F. S. and W. S. F. S., the father, is at the present time 60 years of age, a farmer by occupation. He was admitted to London Asylum six years ago, but in that time has been well enough to return home and work, or at least live outside an institution for 10 months, at the end of which time it was found necessary to have him returned. We learn that the patient has been unsteady in his work for the past 10 or 12 years; that he has been erratic, has neglected his duties, would not attend to his work on the farm, was irritable and childish, had vague, grandiose ideas and would skip and jump with a pole by the hour after the manner of a child. The family physician, who had the patient under observation for many years, stated "he has always shown evidences of insanity, but has been much worse of late." So we learn that

the patient we now see a cross-sectional picture of has suffered from a deteriorating psychosis for many years. In his present mental status we find distinct evidences of the end-stage of dementia precox, where the intellective processes are not greatly interfered with. As McDonald has recently pointed out, a careful scrutiny of many terminal cases often fails to reveal the profound mental deterioration and disintegration that is anticipated. This is just what was found in the case under discussion. The patient was very manneristic in speech, showed a marked degree of childish apathy and indifference, stereotypies, a ready adaptability to his environment and evidences of old hallucinatory experiences. In the light of our present knowledge, and following the precepts of the Kraepelin school, it would seem that if we are to attach a distinguishing mark to the disease from which he is suffering we must regard the case as one of dementia precox, as the characteristic features of this condition persist and are readily observable all through. The patient is now over 60 years of age. From his history we learn that there is a distinct taint on his paternal side, two cousins having been insane. The nature of their psychoses was not ascertainable, but we were able to elicit the fact that a paternal cousin committed suicide. Here, then, we are in a better position to understand the unfolding of the next chapter as illustrated by the psychosis in the son, W. S., with whom we shall now deal. It might be noted that the patient's mother is said to be in good health, has shown no evidence of mental weakness, and her family history is clear.

The son, W. S., is at present 27 years of age, and has only recently been committed, but on going into his history we learn that for the past eight years the present condition has been developing, so that a change was evident to his relations. From the patient, whose information has proven to be very reliable, it seems probable that even at an earlier date the disease was manifesting itself. His very early history was negative. He was of a shy disposition, never fond of meeting people, although he showed nothing especially abnormal at this time. When at school he made fair progress and took a keen interest in sports; later on, however, when at high school, he made a considerable effort to keep abreast of his class, and here his low resisting power commenced to show itself. It was soon evident that the strain was too great, and when about 19 years of age he tried an examination that was about equivalent to university matriculation. He was unsuccessful, and spent the following year at the same work with a view to rewriting the examination. As time went on it was apparent that the patient, instead of being better prepared, was actually less fitted than he had been a year previously to undertake the work. Recognizing this, he gave up the struggle and did not even try the examination. From this time on the history records a gradual deterioration. There first came a diminution in the breadth of his interests and a falling off in the quality of what he performed—a gradually increasing apathy. At the same time we learn that he had very well preserved insight, and often used such expressions as, "I am

anxious and apprehensive of the future." At this time, it should be kept in mind, the patient's father was an inmate of a hospital for the insane. After leaving school he endeavored to take up work on the farm, but because of the constant presence of a mild, apathetic indifference he did not succeed, and he was considered an idle individual, lacking in ambition. He developed no bad habits, was quite temperate, as his father had been before him, and also had a negative sexual and criminal history. A little later his indifference grew to the extent that he no longer paid the attention or gave the care to his personal appearance he had formerly done. He would go about unwashed and unshaven, and his whole bearing gave still further proof of his indifference. He grew tired of his failures on the farm and decided to seek broader fields and pastures new. He went to a large Western city, where he was for a time employed at some laboring work. Becoming somewhat more ambitious again, he registered at a business college, but at the end of one month was forced to leave because of shortage of funds. He went home finally, and from this time the psychosis developed rapidly. Patient says that after this he never seemed able to even approximately attain his ideals, that he was gloomy and fearful of the future; but with it all, his friends tell us, apathy pervaded the picture and was the characteristic emotional coloring. He was able to remain about home for nearly three years more, when his power of adjusting reached low water, and it was found necessary to have him committed because of impulsive tendencies which he sometimes displayed. He carried a loaded revolver about with him, and had threatened to use it in order to facilitate his adjustments with the neighbors in the immediate vicinity.

On admission the most pronounced symptom was the indifference, and he showed very little intellectual deterioration. He had a good grasp of events of the present in the outside world. School knowledge was fairly intact; this, with the general fund of knowledge at his disposal, permitted of his giving a very interesting account of his past. Further, he impressed everyone with his remarkably well-preserved insight. He was rather childish, spoke in a slightly affected, manneristic fashion, displaying only a slight amount of voluntary activity, and his spontaneous thought production was limited, but after he had been sufficiently stimulated he could be induced to proceed with his story. He showed some stereotypies, but no evidence of hallucinatory experience or any elaborated delusional fabric. His general reaction so strongly suggested that of his father that all who had observed both patients clinically commented on it. Apart from this, however, we have the fundamental features in the psychological analysis the same in both cases; in both comparatively slight intellectual deterioration, with marked indifference and other evidences of a slowly deteriorating disease process. From this we are led to the conclusion that the son is suffering from dementia precox, and one is most inclined to regard the case as belonging to the hebephrenic variety, whereas the father, because of his vague, grandiose delusions and ideas of reference, was no doubt of the paranoid type.

The strict differentiation of the varieties, however, seems not to be essential when we are able to deal with the fundamental features. The similarity of the symptom-complex in these cases of father and son was most striking, and were it not that the time is limited I would like to dwell further on several points, because the histories were so complete, the necessary questions so fully gone into, that they have carried very considerable weight and have led to certain conclusions which I hope to mention later. I am convinced, after a thorough consideration of both cases, that the psychosis will proceed more rapidly in the son than in the father. The earlier onset in the son shows the likelihood of this happening, and it is probably a further expression of Nature's desire to rid herself of the unfit and a demonstration of an inexorable biologic principle.

The next case, with which I wish to deal somewhat more briefly, serves to exemplify to a greater degree what has already been said. I have purposely gone into the first group at considerable length in order that when I come to deal with the great mass of cases I may only indicate the members of the family and state the nature of the psychoses from which they are suffering.

H. J., a male patient, age at the present time 65, is a case of depression coming on in the involutional period, probably about the age of 58 or a little earlier, presenting many of the features of those cases described by Farrar under the name of depressio-apathetica. He did not give evidence of the presence of subjective certainty, the elaborated religiose delusional fabric of the true melancholiac, nor did the patient show the *angst* feature which colors some of the cases and led the above-mentioned writer to regard it as probable that a certain group might be classed as anxious preseniles. This patient at the present time is fairly adaptable, and, except for the possibility of a suicidal impulse, might almost be taken care of at home. He could not be regarded as nearly well, however, and the prognosis seems unfavorable. In this instance, going back one generation, we learn that patient's father was a farmer and a local Methodist preacher. Patient is very certain that his father's sense of religious justice was tempered with mercy and that he was moderate in his religiosity. When about 62 years of age the patient's father developed a mild attack of depression extending over a period of six months just preceding his death. The character of this depression was very similar to that of the patient, but differed in certain particulars. It developed later in life and was of a shorter duration. It was not so severe at the time of his death as it had been at an earlier period. The patient himself as a young man showed nothing that would have led anyone to believe that he was likely to develop a psychosis. He was a total abstainer, as his father had been; was a careful farmer and made a good living. He is modest, and states frankly that he was not "the smartest of men." He was a class-leader in his church for 30 years; had a good reputation in the neighborhood where he lived, being regarded as an honest man and a fairly good farmer. For many years he had worked a

50-acre farm, and had evidently found this to be just about all his physiological capacity would permit of. Later on, when his family were growing up, he found it necessary to enlarge somewhat, and bought a farm of 125 acres. This change in the usual routine and the extra work involved in the transaction caused him to worry a good deal, and the strain proved too much. At this time family differences arose, and the result was that the patient developed the psychosis which has been briefly described. Just one other feature in connection with his mental disease: He made a suicidal attempt, but it was not well thought out, and was like the typical suicidal attempts of these cases of presenile, apathetic depression, which differ very materially from the usually successful attempts of patients with melancholia vera. The patient's family consisted of five children, and of these five, three have already exhibited evidences of mental disease and have required hospital care. Two have recovered sufficiently to again take up work on the outside, but the third and youngest of the three is still an inmate of a hospital for insane. I wish just for a moment to point out some of the features of these cases in the third generation. The eldest of this last family, when a woman something over 30 years of age, commenced to show signs of mental alienation. As in the case of her grandfather and father, she had showed no early peculiarities, had been up to the level of others in her station, working hard and making a living as a cook. After her father was sent to an asylum she left her position and applied for a place in the institution where he had been sent for treatment. She worked there for a time, and, although the quality of her work was only fair, it was probably no worse than her training and early environment would have led one to expect. The work at the institution after a time did not seem to suit her, so she resigned and accepted another position in an adjacent city where it would still be possible for her to visit her father regularly. The strong bond of affection between this patient and her father was always evident, and this is to be remembered, because the work at her new place and a constant endeavor to see her father frequently, were assigned as possible causes of her breakdown; it was thought she was working too hard. She at first showed some depression, but along with this developed many delusions, largely allopsychic in character. She also appeared to be deteriorating somewhat, and the hospital physician was uncertain whether the case would prove to belong to the maniaco-depressive or the dementia precox group. The former diagnosis was somewhat favored, because she showed considerable improvement, marked apathy and indifference did not develop, and, although patient had a history of having been mute and resistive, this cleared up entirely, and she was considered well enough to go home on probation, and later was discharged. It was not felt, however, that she was entirely recovered or that she had quite returned to the condition she was in before her trouble developed.

The next of the family, now a man of 31 years, had a psychosis when 19 years of age and was in an institution for one year. At

the time of his admission he had vague ideas of reference, occasionally showed considerable emotional instability and was also occasionally impulsive. For a few months it was thought to be a deteriorating psychosis, but later he began to improve, took an interest in his surroundings, began to work well, and at the annual sports of the hospital was successful in winning one of the races. His improvement at the end of a year was so marked that he was allowed to go home on probation, and a short time later was discharged. He was considered recovered because he was able to remain at home to take up his work much as formerly, and his relations believed he was well. This patient has remained out for seven or eight years, but it has been ascertained that he is not quite well at times, and on one occasion it was believed it would be necessary to again send him to the hospital. The diagnosis, as in the case of his elder sister, was in doubt, the same possibilities being considered, but the weight of evidence points somewhat more strongly to dementia precox. The third patient in the third generation is almost a type case of hebephrenic dementia precox. He is 21 years old, and is a type of a mild deteriorating psychosis, where the negative rather than the positive predominates. In the consideration of this family it seems to the writer that certain indications are evident as in the previous one. From a mild non-deteriorating or only slightly deteriorating psychosis in a grandparent we travel down the scale to a pronounced, typical deteriorating disease process in the fourth child of the third generation, the first child in this generation showing less marked evidence of mental enfeeblement, but the second child more nearly still approximating, and finally the last child developing a psychosis of a typical deteriorating character. So that while there appears to be a similarity in the form of mental disease that various members of one family develop, there is also a gradually increasing tendency to the development of a type where pronounced mental enfeeblement develops comparatively early.

That this is invariably the case I do not believe, and where several members of a family whose ages closely approximate one another develop psychoses it not infrequently happens that an older member of the family may show more pronounced mental weakness than a younger member of the same family. In such cases as D. E. and T. E., brothers, aged, respectively, 24 and 30 years at the time of admission, this was well illustrated. Both were cases of catatonic dementia precox and showing most pronounced stereotyped movements similar in character. Other features were also similar, except that the deterioration was somewhat more profound in the elder of the two. It is an interesting corollary that a sister who is insane and who was 21 at the time of admission, while showing some fundamental symptoms in common with her brothers, was much more active and did not show so clearly the family reaction type. However, she could be put in the same group of cases, with the same unfavorable outlook.

(To be Continued.)

RHAZES.

(925-1045 A. D.)

FOURTH OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

CHAPTER IV.

WE have, thus far, given a brief synopsis of the most famous physicians up to the entrance of Mohammed and his followers. The reader has wandered rapidly through Greece, and noted its unrivaled medical superiority; Rome, and marked its rise and decadence; Egypt, and admired its intellectual Alexandria. This brings us up to the school of the Arabians, who, fortunately, had preserved some of the works of the Greeks, and thus were in a position to bring about finally a revival of medical learning in the West.

We have observed the pre-eminence of the Greeks over their neighbors in medicine, as well as in other branches of science, and we are impressed with the tenacity with which Hellenic teaching maintained its hold, even upon its rivals and successors. We find that Rome's greatest physician was a Greek, and that the best medical teaching of the empire was based on that obtained from Greece. And, although the school of Alexandria reached a high state of excellence, it was none the less influenced considerably by the teachings of Hippocrates. But when it was apparently considered necessary to destroy the works of this great people, we find that a guiding hand saved from the flames enough to permit the Arabians to extend the Greek influence and knowledge far past the Middle Ages, into our own times.

If the followers of Mohammed could bring to their credit no other achievement, their place in a medical history would be justified. But they produced several physicians of great learning, who made distinct additions to medicine, and a work of this character would be incomplete without a mention of them.

Let us, for a moment, glance over the history of the period and note the conditions leading up to the Arabian supremacy:

In the fifth century we find that the Roman Empire of the West drew its last breath.

In about 570 the Lombards took Italy away from the Emperor of Constantinople, who was also hard pressed by the Persians; and in 622 we note the beginning of the Mohammedan period and Arabian supremacy. The army of the new prophet conquered Arabia, invaded Persia, and added Syria, Egypt and Africa to his domains. In about 709 this new power crossed the Straits of Gibraltar and took possession of Spain. In a little more than half a century the followers of Mohammed had spread their religion and influence over all the vast territory between the Pyrenees and the

Oxus, making their Koran the universal book of the law. They appeared in Spain—

"A countless multitude:
Syrian, Moor, Saracen, Greek renegade,
Persian, and Copt, and Tartar, in one bond
Of erring faith, conjoined—strong in the youth
And heat of zeal—a dreadful brotherhood.

"Nor were the chiefs
Of victory less assured, by long success
Elate, and proud of that o'erwhelming strength
Which, surely they believed, as it had rolled
Thus far unchecked, would roll victorious on,
Till, like the Orient, the subjected West
Should bow in reverence at Mohammed's name."
—*Southey's "Roderick."*

But the battle of Tours resulted in their defeat and put a final check to Mohammedan advance.

The Arabians originally received much of their knowledge of science from Alexandria, with which city both Mecca and Medina carried on a considerable commerce. Several Greek physicians who accompanied the daughter of the Roman Emperor Aurelian when she became the wife of Sapores I were responsible for the introduction of much Greek medicine; and the Jewish schools of Nisibis, Mithæ-Mechasja, on the Euphrates and Sura, in about the fifth century, furnished many teachers.

The Nestorians, a sect of Christians who had been expelled from the church on account of their heterodoxy, had taken up homes among the Arabs and gave them the benefit of their somewhat extensive learning.

When Sapores founded his new capital at Jondisabour he established a school of medicine in that city which produced many famous physicians.

Hareph-Ebn-Kaldhat, a product of this school, was greatly honored by Mohammed at Mecca; and he later became physician to the Prophet's successor, Abu Beker, and ultimately died of poison.

After the conquest of Egypt, although much of the Alexandrian Library had been given over to the flames by the conquerors, enough of the great Greek works remained to be translated by the Jewish and Christian aliens into the Syrian language, which were later translated into Arabic, and medicine was finally placed upon a sound footing when Caliph Almanzor established the College of Bagdad.

That the Mohammedans entered into the advancement of science with great enthusiasm is evidenced by the large number of hospitals and laboratories which soon flourished. It is estimated that at one time something like 6000 students attended these institutions.

Dr. Friend tells us that for every mosque erected it was almost an invariable rule to construct along with it a hospital and a college. The course in medicine usually consisted of instruction in practical medicine, chemistry, materia medica, pharmacy and his-

tory, and the principal older authors, such as Hippocrates, Galen, Oribasius, Dioscorides, etc., were studied. The quality of the schools differed, as in our own day, and some of these institutions cannot be said to have had a high standard. Baas relates the following: "An old but well-clad Arabian applied for a medical examination to the president of the College of Bagdad. At the very first question of the president the old man drew forth his purse and shook out its contents. Although he could neither read nor write, this jingling answer was sufficient and he was given a diploma, with the conditions that he should never administer either active purgatives or emetics, nor perform venesection, but merely employ, with his patients, oxymel and syrup." These old Arabians were, perhaps, in advance of some of the schools at the present day, in that at least they limited the graduates' field. This recalls the story related of an English college of two centuries ago: A wag sent a £2 note to the institution for a degree for his friend, M. Fido. After receiving what he had paid for, the college authorities requested that the newly made doctor speak to other eligibles, recommending the institution. The wag wrote back, stating that as M. Fido was his favorite pup, he would see to it that all the dogs in the district were at once made acquainted with the opportunities thrown out by the college.

It is recorded that at one time, in the Duchy of Württemberg, the members of the medical profession were occasionally added to by the promotion of the public executioners. According to the law, this functionary received a new title of honor after every successful execution. When he had completed a certain number he was deemed eligible to practice medicine, and he was accordingly made a doctor of physic. This was evidently based on the belief that he who could kill well could physic well.

A story is told of Dr. Mead which proves that such an impression was not limited to the enlightened Württembergers. Mead once reproved a mechanic for improperly laying a pavement in front of his house. "Why, you rascal, do you pretend to be paid for such a piece of work? Why, you have spoiled my pavement and then covered it over with earth to hide your bad work."

"Doctor," was the reply, "mine is not the only bad work the earth hides."

However, it seems that in Arabia every ruler vied with his predecessor in the encouragement of knowledge, and we find that the Caliphs Mostauzer, Haroun Alrashid—our friend of the "Arabian Nights"—and Almamon patronized most liberally the arts and sciences, and while in the West this period was wrapped up in darkness of the blackest night, the followers of the "faithful" were making much intellectual progress in the East.

Opinions as to their great advancement of the sciences differ. It has been maintained by many that the Arabians' greatest, and perhaps only, contributions were in their translations of the Greek masters, and that even in this they were not always accurate. Although for several centuries they were given the greatest credit

for transmitting the chain of ancient learning intact, it was finally discovered, upon the taking of Constantinople and upon getting possession of the original Greek works, that the Arabian translations of these were not always correct. Nevertheless, it was due to Arabian intelligence that the original Greek manuscripts were preserved, and it is a question whether these great works would not have entirely disappeared had it not been for the followers of Mohammed.

We owe to their researches many valuable additions to the materia medica, among them being the introduction of musk, senna and rhubarb, and for their employment of distillation by means of the still they have been regarded as the founders of chemistry.

Their list of eminent medical men is quite an extended one, but perhaps the three who have the greatest claim to a place in a medical history are Rhazes, Avicenna and Avenzoar.

The exact date in which the former lived is not known, but it was some time in the tenth century. He was born at Ray, and at an early age displayed a passionate fondness for music, which later gave way to medicine. His great genius obtained for him the appointment of director of the hospitals at Bagdad and Ray, although there were a hundred noted physicians to choose from, and his reputation as a professor at the College of Bagdad attracted to that institution students from all parts of the empire.

Like most of the great writers of antiquity, Rhazes was most prolific with the pen, and something like 220 treatises are said to have been written by him. His range of knowledge was quite varied, and included, besides the healing art, astronomy and alchemy, the latter of which he transmitted in 12 books. One of these is said to have gotten him into trouble with the ruler, Al Munsur. He dedicated to him a work on alchemy to which he gave the title "Liber ad Almonsurem," and in which he endeavored to prove the certainty of that science. He brought the book to Bagdad in person, and the Caliph appeared so appreciative that he presented to the author 1000 diners, a sum equal to about $2500. Greenhill quotes the following from a translation of a treatise of Rhazes:

" 'I wish you to put in practice what you have laid down in this book,' said Al Munsur to the physician, to which he replied: 'That is a task for the execution of which ample funds are necessary, as also various implements and aromatics of genuine quality; and all this must be done according to the rules of art; so that the operation is one of great difficulty.' 'All the implements that you require,' said Al Munsur, 'shall be furnished you, with every object necessary for the operation, so that you may put in practice the rules contained in your book.'

"Perceiving the Prince to be in earnest, Rhazes hesitated to undertake the task and declared his inability to perform it, upon which Al Munsur said: 'I should never have thought a philosopher capable of deliberate falsehood in a work represented by him as a scientific treatise and one which will engage people's hearts in a

labor from which they can derive no advantage. I have given you a thousand diners as a reward for this visit and the trouble you have taken, but I shall assuredly punish you for committing a deliberate falsehood!' He then struck him on the head with a whip."

Moir relates the following anecdote of him: While on one of his journeys he was passing through the streets of Cordova, in Spain, and observed a great crowd collected around a man who lay on the ground, insensible and apparently dead. After examining him for a moment attentively, Rhazes ordered a bundle of rods to be brought, which he distributed among the bystanders and set them a-whipping him over all parts of his body, more especially the soles of his feet. Such a proceeding was at first regarded as a matter of whim and folly, but after a while the person began to stir and to exhibit signs of animation. After bringing him completely around, Rhazes mounted his mule amid the acclamations of the crowd and pursued his journey. The fame of this supposed miracle soon filled the city, and, reaching the ears of the governor, he was waited upon and complimented by him as "one who was not only a skilful physician, but who could restore the dead to life."

This use of the "stick treatment" is by no means unique. It is related that Antonius Musa cured Octavius Augustus of a severe attack of sciatica in a similar manner; and that Thomas Campanella preferred it to colocynth, and that even Galen is said to have prescribed a thorough hiding as a fattener. Gordonius is declared to have been wont to "lick" the nervous irritability out of many of his patients; and numerous other stories are told of the radical methods resorted to by the physicians to effect their cures.

This recalls the story related of a rather whimsical German physician. He was once called to see a child who had suddenly lost his speech. Making as if to examine the youngster's mouth, he led him over to the window, which was at the head of a long stairway:

"So he has lost his tongue, has he," shouted the irascible savant. "Well, then, let us see if he cannot find it there at the bottom," and with this he shoved the astonished child headlong down the long staircase. To the great surprise of the parents, it is related, the patient crawled up the steps, bringing his speech with him.

Rhazes' greatest contribution was his treatise on smallpox and measles, it being the first elaborate work written upon these subjects. His theory of variola is interesting and unique. He declared that the latent principle of the disease was in the blood of the foetus, and, consequently, must finally exhibit itself in later life. His treatment in ordinary cases consisted principally in a close application of the rules of regimen. In the early stage he recommended cold water as a drink, the use of vapor baths and a limited administration of purgatives. He encouraged the maturation of the pustules by applications of warm fomentations, and their exsiccation by a mixture of oil of sesame and salt.

His description of hydrophobia, as related by Friend, shows the antiquity of this disease: The man had been bitten by a mad dog and was put into a hospital. He barked and complained of thirst, but was not afraid of water, which he craved. However, when the water was offered him, he refused it, and declared that it had dirt in it. When he was asked what sort of dirt, he replied, "The garbage of dogs and cats," and desired some other; but when a fresh supply was brought he made the same complaint and would not drink, and continued with great anger and scolding.

In the third chapter of his work on the "Affections of the Joints" he relates his experiences with bleeding. A woman of strong "habit" was treated by him for a very severe pain, which accompanied a hard, inflamed tumor on the right wrist. He took of each from the basilica and saphenous veins half a pint of blood. Three hours later he repeated the operation. At the end of three more hours, having given the patient some nourishment, he again opened the saphenous and withdrew another half pint. Recovery followed.

Rhazes is given the credit of being the first physician to write a special treatise on diseases of children, and Dr. Friend ardently maintains the contention that this Arabian writer was the first to describe the *spina ventosa.*

In his "Liber ad Almansorem" he describes his idea of a good practitioner: "If he has been very industrious in a diligent perusal and examination of the books of the ancient physicians and has carefully read and compared their writings, we may justly form to ourselves a good opinion of him. * * * It were rather to be wished he were wanting in the practical part (I do not mean to be utterly unacquainted with, at least, some part of it) than to know nothing at all of the learning of the ancients. For he that is well versed in and hath well digested the writings of the ancient physicians will, with a little help of practice, easily attain to what others who are wholly strangers to this branch of learning can never be able to compass. For 'tis not possible for a man, though he live to a great age, to attain to this part of knowledge, so considerable in itself, unless he treads in the track of the ancients: The extent of this science far exceeding the bounds of human life. * * * The authors who have improved this art are not a few; but they are not to be comprehended within the compass of a few years. A thousand writers, perhaps for a thousand years, have been improving this art and profession, and he that industriously studies those authors will in the short period of life find out as much as if he had lived a thousand years himself or employed those thousand years in the study of physic."

Under Rhazes medicine formed its first compact with chemistry, and he is no doubt the first physician to make use of that science in the treatment of disease. Among the chemical preparations he mentions are: Corrosive sublimate and mercurial ointment, several preparations of arsenic, the sulphates of copper and iron, saltpetre and borax.

Like many of his predecessors, and, it might be added, numerous

successors, Rhazes' great bulk of treatises consisted, principally, of reduplications of older discoveries. In fact, this is so marked in many authors that it has led Lord Bacon, in his "Advancement of Learning," to remark that "Medicine was more professed than labored, and yet more labored than advanced; the labor having been, in my judgment, rather in circle than in progression. For I find much iteration and small progression."

Yet we must not value his work any the less for this, since it is no doubt due to this quality in medical writers that the former teachings have been preserved from sinking into oblivion.

All commentators unite in declaring that he was a most learned, liberal and accomplished physician. Although he enjoyed an immense and lucrative practice, his great charity kept him poor. In his old age he became blind as a result of cataract, and, although urged by his colleagues to submit to an operation for its relief, he steadfastly refused to do so. He was accustomed to attribute his affliction to the too free use of lettuce.

He is said to have lived to the unusual age of 120, but there is no record extant of the date of his death. His contributions to the advancement of science comprised a great variety of subjects, and there is no doubt that he took a considerable part in perpetuating and extending the accumulations of knowledge.

Among the things he mentions in his works which are of unusual interest may be included his recommendation of a mixture of snow and water for burns. He thought it inadvisable to wean a child in the summer. He had an idea that it was possible to figure out the number of children a primipera would have in the future by counting the abdominal wrinkles. He preferred monopharmacy to polypharmacy, and was of the opinion that food was often of more value than drugs. The foetus, he declared, was a result of the mixture of male and female semen, the sex depending upon which semen proved the stronger.

Operative Surgery. By J. F. Binnie, M.D. Vol. I, fourth edition, revised. Philadelphia: P. Blakiston's Sons & Co. 1909. Price $3.50 net.

This book is just what it is claimed to be, neither more nor less—a pocket manual, though slightly large for that purpose. Its author, having in view the brevity with which some operations were treated in ordinary textbooks, decided to supply this void, and has done so admirably. While the book is sufficiently full for a working guide, especially for students, it is not so fulsome as to be unreadable. The text, which includes operations upon the head, neck, nerves, trunk and genito-urinary system, is admirably illustrated with pertinent cuts, but ligations and amputations, owing to full treatment in the general surgeries, are omitted by the author.

IDEALS OF HEALTH IN TOWN AND COUNTRY.

By Charles O'Donovan, M.D.,

THE American people have been so strenuously engaged in producing and amassing wealth that they have, until recently, given very little thought or consideration to other economic problems that are equally, or even more important. Among these neglected studies may be classed the science and art of preserving the health of individuals or communities. As an immediate result of this neglect we are at present wofully deficient in the means taken to defend ourselves against disease, being willing apparently to take our chances with these insidious and dangerous enemies rather than devote to their study and eradication the time and energy that must thereby be withdrawn from the pursuit of money. But, after all, is wealth so enormously satisfying or so productive of happiness as to justify the neglect of conditions far more readily attainable and capable of returning much greater rewards? Can money buy health? Or can it supply to those who possess it, but have not health, the capacity of enjoyment that pertains to the healthy man, even with a moderate competence? I think there is no one who would hesitate for a moment if asked to choose deliberately between money and health, but there are very few indeed who put into practice the method of life that is evidence of this sane decision. Most of the careless majority are utterly ignorant of the possibilities of health, accepting its presence or absence as something over which they have no control, either collectively or individually, never bothering themselves about the matter, living and dying by chance, as it were, often suffering illness of a kind that might readily have been avoided, perhaps becoming themselves foci of disease from which new cases or epidemics spread, and so continuing the vicious chain indefinitely. The time has passed for such hap-hazard modes of living. Each individual is an integral part of some community, each community equally a part of the State, and as the various individuals act or live, so must the communities or States prosper or suffer. A single imported case of smallpox has caused 5000 deaths in a single city; a single case of cholera did even worse than this in one of the finest cities of modern Germany no longer than 15 years ago. Shall these visitations occur again? Is there no one to point out the way to escape them? Alas, too often are the warning voices heard from those who are fully capable and willing to direct our footsteps, but they fall on deaf ears. Diseases that are easily eradicable continue to exist in civilized communities merely because of the ignorance or inactivity of those most concerned, and from their safe anchorage in the seething pestholes of poverty and vice stretch forth their

foul tentacles into the homes or schools seeking innocent victims. No battle can be gained without sacrifice, but the cost must be measured by what it accomplishes. Does one regret the loss of lives or treasure that successfully repels the hostile invasion of an armed enemy? Why, then, should we not be equally spendthrift in our efforts to destroy noxious diseases that steal from us our parents or children beneath our very eyes, and through our supine neglect? This is the problem before us today. The great victories of the past in sanitary science and prophylaxis show us what can be accomplished. Where now are the pock-marked faces of those who have lived through an attack of smallpox, survivors of the victims of a plague that was once universal, which attacked indiscriminately the rich and the poor, emperors, kings and beggars, cleanly or filthy alike, killing from 30 to 40 per cent. of those attacked, and leaving scarred and disfigured features on those that escaped death? Immortal Jenner, possessor of the divine gifts of observation and correlation, a modest country physician of rural England, banished this foul scourge from the world of civilization. Where is leprosy, once a general menace that pervaded the entire world, giving to human beings a living death, in which they saw their members rot away, making of each sufferer a being half dead, but agonized in mind and body, without hope of cure, and such a curse to those around as compelled seclusion in some neglected spot or prison till merciful death brought relief? Sanitation and personal hygiene, with improved standards of living, have wrought such changes in the human race as to banish this loathsome disease to distant lands, where small leper communities still exist, but decrease annually. What of the plague, that came at long intervals from the East like a destroying whirlwind, turning wide stretches of fertile country into barren wastes, and of cities making ghastly graveyards? The plague still exists. India is today paying terrible tribute to this monster. Modern medical science has tracked it to its lair, has relentlessly torn from it the veil of mystery that so long protected it, has shown whence it comes, how it travels, how it propagates itself, through what channels it reaches man, and with this radiant knowledge has arisen our power to avoid it. The community or the people who listen to the voices of their teachers need have no fear of the plague if they are willing to be guided and to do what is necessary to escape or extirpate it. Is diphtheria forgotten? To every ear within the sound of my voice that terrible name brings remembrance of fear or sorrow. Who is here that has not heard the whisper of diphtheria in his own home, perhaps in the dim room over his own bed, when an anxious mother trembled as her eyes sought confirmation of her dread in the face of the family physician? Hear now the trumpet sound of joy. It is an accepted fact that we have at our disposal a remedy against diphtheria so potent that its use, in sufficient dosage, during the first 24 hours of the existence of the disease, will save the lives of 99 per cent. of the cases treated. For this is

(Continued on Page a.)

Current Literature.

REVIEW IN MEDICINE.

Under the Supervision of H. M. Cohen, M.D.

Baltimore, Md.

THE WASSERMANN REACTION.

Since Wassermann's announcement in 1906 of his blood test for syphilis much work of a confirmatory nature has been done by independent investigators in the serodiagnosis of this disease. The principle upon which the reaction was based owes its inception to the researches of Bordet and Gengou. Wassermann arrived at the conclusion that the sera of syphilitics contained substances (not present in the sera of non-syphilitics) which have "an avidity for certain substances contained in luetic and normal organs, and also in guinea pigs, and for certain lipoid bodies, as lecithin, cholestrin, etc." (Butler, *J. A. M. A.*, September 5, 1908.)

Elaborating and developing this idea, he formulated the Wassermann reaction, which he regards as practically specific in the diagnosis of all forms of syphilis.

Owing to the complicated principles involved and to the complexity of the method employed by the discoverer, the test will for some time be possible only in well-equipped laboratories and by more or less expert workers. The ordinary physician, to whom so important a method of diagnosis must appeal especially, will find himself compelled to either turn his case over to the laboratory man or await the evolvement of some simpler means of making the test. That this much-to-be-desired consummation is not far distant may be inferred from the recent announcement by Noguchi (*J. A. M. A.*, April 10, 1909) that human corpuscles may very well take the place of the corpuscles of the sheep in the test.

Although so short a period has elapsed since the epoch-making discovery of Wassermann, the field has attracted an army of workers. From all quarters comes confirmation of the great value and accuracy of the method, and, although more time will be necessary to verify many of the claims put forth by enthusiasts, enough is now known to warrant the belief that practically every case of syphilis will be earlier and more certainly diagnosed than hitherto by the adoption of this procedure.

That the serum reaction is specific for syphilis is assured. The failures are infinitesimal. Butler found that in from 90 to 95 per cent. of all cases presenting syphilitic manifestations the reaction was specific. Latent cases show a specificity of from 50 to 60 per cent. The percentage of parasyphilitic cases runs from 70 to 80. The small proportion reported negatively may, in part, be possibly attributed to mistakes due to the difficult and complicated technique required for the test.

It would appear that the reaction is more positive in those cases not under treatment, suggesting the advisability in doubtful

cases of suspending treatment temporarily. The value of a diagnostic method of so great accuracy cannot be overestimated. To be able to state positively soon after the appearance of an initial lesion that syphilis is present gives us an opportunity to commence treatment earlier and avoids the necessity of delaying it until the appearance of secondary symptoms. Where the reaction is positive treatment may be instituted at once.

According to Marchildon (*St. Louis Med. Rev.,* Jan. 9, 1909), "in the presence of hard chancre, with a negative Wassermann reaction the chancre may be excised surgically and syphilis aborted. With a chancre present and serum reaction positive, then general infection has taken place and excision of chancre can be of no benefit."

The field of usefulness for the reaction is a large one. Not only will it be found valuable in all doubtful primary and secondary forms of the disease, but in the ofttimes vague tertiary stage must it prove of great value. In such conditions as brain syphilis, cerebrospinal syphilis, hemiplegia, tabes, epilepsy and neuritis, the advantage of a specific test in the diagnosis is obvious. While negatively the reaction has not proved itself infallible, it is sufficiently certain to be of use often in making a diagnosis by exclusion. In cases of pseudoluetic rheumatism or in pregnant women where there is a suspicion of syphilis, the test is important. It should be especially valuable in determining positively the existence of syphilophobiaism.

In Germany the life insurance companies require the test of all applicants for insurance, which would appear the part of wisdom in view of the report that 20 per cent. of all male adults of Berlin have syphilis in some form. That the value of Wassermann's reaction is far-reaching is evidenced by the announcement of Lederman (*Med. Klinik,* Berlin, March 21, 1909), that he found it to be positive in 16 children who inherited syphilis.

In those cases where the spirocheta pallida can be demonstrated the Wassermann reaction need only be used as a confirmatory procedure. Its great field of usefulness lies among that large class of cases where a serum test is the only one available.

A TEXT-BOOK OF OPERATIVE SURGERY (Third Edition). By Warren Stone Bickham, M.D. Published by W. B. Saunders Company, Philadelphia. Cloth, $6 net.

This book is written in a thoroughly new strain, and the discussion of the subject is arranged very systematically and in an entirely original manner. The book is well illustrated. It is to be commended as one of the best single-volume text-books of its kind published. The text has been brought precisely down to the latest accepted theories.

WILLIAM H. WELCH, M.D.,
President.

MARSHALL LANGTON PRICE, M.D.,
Secretary.

HOWARD BRATTON, M.D. LOUIS A. GRIFFITH, M.D. JAMES BOSLEY, M.D.
DOUGLAS H. THOMAS, JR. Hon. ISAAC LOBE STRAUS.

Under the Direction of the Secretary of the State Board of Health

REGISTRATION OF MIDWIVES.

LARGELY through the efforts of Mrs. Joseph C. Bloodgood of Baltimore, a committee for the prevention of blindness has been formed in Maryland. The committee will address its efforts largely to overcoming that form of blindness most clearly and directly preventable, namely, ophthalmia neonatorum, with which disease the name of Credé will always be as indelibly associated as that of Semmelweis is associated with puerperal fever.

Mr. Charles J. Bonaparte is chairman of the committee; Dr. Hiram Woods, vice-chairman; Mrs. Joseph C. Bloodgood, secretary, and Mrs. Copeland Morton, assistant secretary. A medical subcommittee has been formed under the chairmanship of Dr. J. Milton Linthicum.

The committee has been foresighted enough to see that the problem of infantile blindness is closely associated everywhere with the practice of midwifery, but even as important as this phase of the subject is, the problem of midwives is much more far-reaching. In fact, at the present day puerperal fever, even more than ophthalmia neonatorum, is a problem of midwives *sui generis*. Ophthalmia neonatorum causes life-long blindness; puerperal fever, death of the mother or chronic invalidism.

The knowledge of the existence of a large amount of preventable blindness in Maryland (although statistics are lacking), of the existence of numerous deaths from puerperal fever due to midwives, and the alarming prevalence of infections of the umbilical regions and tetanus neonatorum in the practice of midwives led the State Board of Health about one year ago (May 23, 1908) to begin the execution of the act of the General Assembly of 1898, Chapter 436. This act, which has remained in inocuous desuetude for the 11 years following its passage, contained a provision not only valuable, but essential as a preliminary step in any attempt to regulate midwifery—namely, it provided for the registration of midwives.

The provisions of this law and the reasons for the State Board

of Health taking steps toward its effective execution are set forth in circular-letter No. 66 addressed to local registrars and health officers:

CIRCULAR-LETTER NO. 66.

Local Registrar of Vital Statistics:

Dear Doctor—Your attention is called to the provisions of Section 55 of Article 43 of the Code of Public General Laws, as follows:

"Section 55. Every person not a legally qualified physician practicing as midwife or acting as attendant upon woman in childbed in this State who shall find any lying-in woman to have fever shall forthwith notify the health officer of the district, and shall refrain from attendance upon any parturient woman, or woman in childbed, until the local health officer shall give her written permission to resume such practice. Every midwife, obstetrical nurse or other person, not a legally qualified physician attending, for pay or hire, upon any lying-in woman or woman in childbed shall send his or her name and address to be registered in the office of the registrar of vital statistics for the city, town or county in which he or she resides. And every person violating the provisions of this section shall be guilty of a misdemeanor and shall, upon conviction, be fined not exceeding one hundred dollars or imprisoned not exceding six months, or be both fined and imprisoned, in the discretion of the court."

From this date the provisions of this section relative to the registration of midwives will be rigorously enforced. Please send us at your earliest opportunity a list of persons practicing midwifery for hire residing within your jurisdiction. Each such person will receive a copy of Circular-Letter No. 67 enclosed, and also a copy of the enclosed postal, upon which they will be required to transmit to you their name and address. This data must be registered in your office in compliance with law.

The necessity of regulating the practice of midwifery is recognized by physicians, social workers and all persons who have studied or are acquainted with the conditions under which midwifery is practiced. The practice of midwives determines the life or death of the mother or her future health, the life or death of the child, and whether it shall be a self-supporting citizen or a sightless charge upon the State. No other class in this State is allowed to deal with problems involving disease, blindness or death with so little regulation as are midwives. The least protection the State can afford to poor and worthy mothers and their children is to see that midwives are registered as required by law, and that they perform the duties imposed upon them by the statutes.

Please file all cards as soon as received by you. A register for midwives will be sent you in about three weeks.

The effective execution of this law is necessary for the good of the State service.

Very truly yours,

MARSHALL LANGTON PRICE, M.D.,
Secretary.

The following card has been provided for the registration of midwives:

REGISTERED MIDWIFE.

To the Registrar of Vital Statistics for.....

I hereby send my name and address to be registered in your office in accordance with the provisions of Section 55 of Article 43 of the Code of Public General Laws:

Name.....*Age*.....*yrs.*
Sex.....*Color*.....*Birthplace*.....
How long practicing as a Midwife.....
Special training.....
Date.....
.....*Signature*
Address.....

To all local registrars of vital statistics a copy of circular-letter No. 89 is now being sent, with a list of midwives. All unregistered midwives will receive a copy of circular-letter No. 67:

CIRCULAR-LETTER NO. 67.

Dear Madam—I have received information that you are practicing as a midwife without having registered your name and address as required by the provisions of Section 58 of Article 43 of the Code of Public General Laws, as follows:

Section 55. * * *

Under the provisions of this law you are required to register your name and address with.....

.....*Local Registrar of Vital Statistics.*

I am enclosing a postal card, which please fill in and mail *immediately* to the local registrar. Yours very truly,

MARSHALL LANGTON PRICE, M. D.,
Secretary, State Registrar of Vital Statistics.

The Midwife Problem.—The midwife problem is not as easy of solution as might be supposed. It is undoubtedly best for every woman in childbirth to be attended by a well-educated and trained physician. Upon this statement there can be, we believe, no controversy; but granted midwives are a necessary evil, how far are they necessary and how far an evil? Also how far can their practice be regulated?

The committee on the prevention of blindness and the committee on midwives of the Medical and Chirurgical Faculty can well address themselves to the solution of this problem. It should be remembered that drastic legislation or legislation addressed to ideal, and not to actual conditions, will result in one of two things—either illicit and illegal practice on a large scale, or in having women in the perils of childbirth without any care or attention, either medical or lay. It is necessary that registration and the actual execution of present statutes be shown to be practical and effective before other reforms are undertaken, because it is clear that without registration all attempted regulation will fail.

It is necessary, in drafting and passing legislation, that facts and not surmises be available, and these are now wholly lacking. In what proportion of births are midwives in attendance? Through what training and experience are such midwives competent? In what proportion of cases would a regular physician be employed if one were available? All of these questions have the greatest bearing on the problem and most of them we are yet unable to answer. It is clear that the bulk of mothers in country districts are now attended in childbirth by midwives. This is in many instances due to poverty. Even the very modest fee of the regular practitioner cannot be met. In other cases it is due to circumstances beyond the control of anyone. It is quite evident that if Dr. X, the only practitioner of medicine in a large territory, is called to attend Mrs. A, and Mrs. B, 20 miles distant is confined on the same day, one of the two mothers must depend on the services of a midwife or give birth to her child unassisted.

It is highly important, in dealing with such a grave and important problem as the midwife problem is, to avoid the common American tendency toward hasty and ill-considered legislation, most of which is only a useless load upon the statute books, and to secure only that legislation which is practical, reasonable, and certain to be well executed.

The following steps appear to us the logical course of procedure in regulating the practice of midwives:

First. Registration of midwives and rigorous prosecution for all violations of the provisions of the act of 1898 for a period of one or two years.

Second. When registration is an accomplished fact, and the courts are properly dealing with all infractions of the act of 1898, the establishment of a low educational standard to which all midwives of reasonable intelligence who can read and write will be able to conform.

Third. Successive elevations of the educational standard as the class of intelligent and educated midwives increases in number.

Fourth. And finally, in addition to a proper educational standard, a requirement of practical training and experience, hospital or otherwise, in asepsis, both of the mother and child.

All of this program will require from six to eight years to complete, but it is a short time, considering the magnitude of the reform to be accomplished. Lest the reformer whose intelligence has clearly shown him the evils of existing conditions be impatient for a more speedy reform, let us call his attention to the following facts: No retroactive law is constitutional either under the Constitution of Maryland or that of the United States.* If it were possible to immediately impose an educational standard, it could not apply to the large class of midwives now engaged in the actual practice of their trade or profession. The time expended in the execution of the registration law would, moreover, not be lost, as it could and would be spent in educating midwives and preparing them to fill that class of educating midwives which is the object of our efforts. The experience of the medical profession in securing a satisfactory medical-practice act will sufficiently show to all familiar with its provisions the time necessary to bring about a reform of this character.

Another Cause of Preventable Blindness.—Second to midwives and other untrained or ignorant "accoucheurs" as a cause of preventable blindness rank avoidable accidents, and conspicuous among these are the Fourth of July accidents, the near approach of which has inspired these remarks.

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* It is not entirely clear that a law requiring an educational qualification of persons already engaged in a profession or occupation would be unconstitutional in the sense of being retroactive. As a matter of fact, however, medical and legal practice acts and other acts of like nature practically always exempt those already gaining their livelihood in the profession or occupation which it is intended to regulate.

As many of us doubtless recall, upon July 4, 1776, the Continental Congress of the United States adopted the resolution of the late Hon. Henry Clay of Virginia, that "these United States are, and of right ought to be, free and independent States." In the early and callow days of the republic it was thought proper to celebrate the return of this glorious anniversary by various noise producers, among which gunpowder soon easily attained first rank. According to the simple ante-bellum code, the louder the noise the greater the patriotism, and the patriot who could explode 100 cannon crackers could afford to question the real love of country of the patriot who only exploded a scant dozen.

It must be admitted that all our pleasures and comforts exact some price. Few railways or large public buildings are constructed without the loss of some valuable life, and the most innocent pleasures have caused maiming and death. The more thoughtful, however, are coming to believe that we are paying too high a price for the pleasure of our younger generation in the annual July holiday. Every season brings around its complement of maimed and blinded children, fires and runaway accidents. The problem should be, not to abolish the use of fireworks altogether, but to regulate it in such a way that the price of pleasure will not be too excessive.

The increased use of dynamite and fulminating silver and mercury has increased the dangers of fireworks many-fold. It is certainly clear that children should not be allowed to handle such dangerous weapons of self-destruction.

The following means of regulating the use of fireworks appear reasonable:

1st. The settling off of fireworks should be confined to public parks and be placed under police supervision. When the police cannot personally exercise supervision they should require the presence of an intelligent adult or parent with each family or small group of children.

2d. The sale of fireworks, caps, toy pistols and blank cartridges to boys or girls under the age of 16 years should be forbidden.

The eye lesions from fireworks which can cause relative or absolute blindness in one or both eyes are numerous. The large cannon crackers are capable, by their direct explosion close to the eye, of destroying the eyeball outright. More commonly, however, powder grains or fragments of the cracker, with a miscellaneous assortment of dirt, penetrate the eyeball. *All injuries of the eye from fireworks should be regarded as serious, and immediately examined and treated by a competent oculist.* In injuries of the cornea and limbus impaired vision or rapid destruction of the sight may occur with especial frequency.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

JAMES BOSLEY, M.D., Commissioner.
C. HAMPSON JONES, M.D., Asst. Commissioner.
THOS. L. RICHARDSON, M.D., Asst. Commissioner, Quarantine.
J. W. M. KIGER, Secretary.

Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

THE WAR AGAINST TUBERCULOSIS.

Writing under this head in the June number of this journal, a table giving the death rate from tuberculosis in Baltimore for the past five years was given, and the chief methods used in fighting the disease were briefly discussed. This table showed that since 1904, when the compulsory registration, anti-spitting and disinfection laws were passed, and since which time a more active fight has been waged against tuberculosis, the death rate has been reduced from 27.22 per 10,000 population in 1904 to 24.66 in 1908, or a reduction of a little over 9 per cent. of the deaths from this disease. By a very simple mathematical calculation it will be seen that if this same rate of reduction can be kept up for the next 55 years the city will be free of this great plague.

When it is considered that a large majority of the deaths from tuberculosis in the last half decade occurred in those who were too far advanced in the disease to derive any advantage from these laws, which were passed and adopted in April, 1904, and that many of the other important factors in the control of the disease have been established or greatly improved at various subsequent intervals too recent to have any appreciable effect upon the rate given in the table, the results obtained are particularly gratifying. For instance, the Visiting Nurses' Association assigned a nurse to special tuberculosis work in March, 1904; in May, 1906, another was appointed to this field; in June, 1907, two more were added, and early in the present year this department appointed two nurses to work in conjunction with those of the association, making at the present time a total of six nurses in the field. The establish-

ment of the addition to the Eudowood Sanatorium and the enlargement of the Phipps' Dispensary, the opening of the State Sanatorium at Sabillasville, and the Jewish Home for Consumptives at Reisterstown, are all new and very important factors in the prevention and cure of tuberculosis that had little or no influence upon the above statistics. It is apparent, therefore, that the next half decade should find at least the same rate of reduction in the death rate from tuberculosis as the last half decade, and every effort should be made to bring it still lower.

Next in importance to the prevention of tuberculosis is the early diagnosis after it has once been contracted. As pointed out in the paper of last month, nearly 75 per cent. of the cases of tuberculosis reported to this department are obtained from the sputum examinations made in the bacteriological laboratory. The director of the laboratory is always upon the alert for any improvements or the introduction of any new methods that will improve the services of the laboratory to the physicians using it. There has recently been introduced into the laboratory a "sputum shaker," the use of which is to agitate and shake up the sputum, thereby breaking up the clumps of bacteria and thoroughly mixing them in the fluid, causing them to be more readily found in specimens of sputa containing but few organisms. While this apparatus has only been in use a short time and it is too early to determine just how valuable it may prove, a glance at the results obtained through its use during the month of May of the present year, compared with the number of positive sputa obtained during the month of May of last year and the entire year before the installation of the machine is interesting.

Table showing the percentage of positive sputa examined for the year ended March, 1909, and for the Month of May, 1909, before the use of the shaking apparatus, compared with the percentage of positive sputa examined in May, 1909, when the machine was used:

	Number of sputa examined.	Number of sputa positive.	Percentage of positive sputa.
Sputa examined year ended March, 1909	2065	626	30.36%
Sputa examined May, 1908	177	52	29.37%
Sputa examined May, 1909, with aid of shaker	296	109	36.14%

The table shows an increase of nearly 7 per cent. of positive sputa for the month of May, 1909, when the shaker was used, over the corresponding month of the preceding year, and an increase of nearly 6 per cent. over the total number of sputa examined the year before the machine was introduced. This may be only a coincidence, but it is rather striking, and we would rather believe that

the use of the apparatus will prove of value in the early diagnosis of tuberculosis by bacteriological methods.

But the physician should not be guided entirely by the bacteriological findings, for, while the presence of these organisms in the sputum is an infallible indication of the disease, negative results are by no means always indicative of the absence of tuberculosis. Cases of very advanced consolidation (caseous pneumonia) may persist for months without any expectoration whatsoever, and cases of marked apical involvement are frequently met with in which there is only slight cough, with little or no sputum. When repeated bacteriological examinations are negative, the physician should be guided by his physical examination, and, if still in doubt, the ophthalmic reaction of Calmette or Pirquet's cutaneous vaccination may be tried. The physician should also examine the other members of families in which there are advanced cases of tuberculosis, as in this way many incipient cases may be discovered. Indeed, somebody has said: "Every member of a consumptive's home should be regarded as an object of suspicion." It would be a step in the right direction if the Health Department could afford to employ a tuberculosis inspector, to visit and examine the members of families in which there are advanced cases of tuberculosis.

Segregation of advanced cases is a matter that should receive the early and earnest consideration of our lawmakers, as there can be no doubt that the ignorant or obstinate consumptive is one of the greatest factors in the spread of tuberculosis. Newholme,* an eminent English statistician, in a very exhaustive study into the reduction of the death rate from tuberculosis for the past 40 years in Great Britain, Europe and the United States, cites such factors as urbanization, houseing, cost of food, wages, amount of food consumed, education, direct preventive measures and segregation. In his summary he says: "Segregation in general is the only factor which has varied constantly with the phthisis death rate in the countries that have been examined. It must, therefore, be regarded as having exerted a more powerful influence on the prevention of phthisis than any of the other factors of which none has varied constantly with the phthisis death rate."

Compulsory segregation does not necessarily mean *universal* segregation. A properly educated and trained consumptive, even though in the advanced stage, is of no great danger to his family or others, but it is the vicious, the ignorant and the obstinate one that becomes a pest and a plague to both his family and the community in which he lives, and it is to this class that compulsory segregation should be directed. Figures Nos. 2, 3, 6, 7, 9 and 13 of the article by Misses Lent and La Motte in the April number of this journal tell a graphic story and prove beyond question that we cannot ever hope to control this disease as long as such conditions are allowed to exist, and the only remedy for these conditions is compulsory segregation.

H. M. STONER, M.D.

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* Journal of Hygiene, Vol. VI, 1906, p. 304

MARYLAND LUNACY COMMISSION.

ARTHUR P. HERRING, M.D., Secretary.
HENRY M. HURD, M.D. HUGH H. YOUNG, M.D. JOHN D. BLAKE, M.D.
R. MARKLEY BLACK, M.D. ATTORNEY-GENERAL ISAAC LOBE STRAUS, ex-officio.

This Department is Under the Direction of the Secretary of the Commission

"THE DUTY of the State of Maryland to its insane is a *cardinal*, a *supreme obligation* to do all and everything without stint for their benefit that its financial resources possibly permit or enable it to do; to exercise in their interest, through its public officials, every effort and labor they are capable of, and to put into effect all the means and resources at its command to perform most effectually this great debt to humanity, this *direct* and *immediate obligation* to *its people* and this *noble duty to all the future*."

REASONS WHY

COUNTY CARE

ALMSHOUSE

1. Almshouses do not and cannot provide continuous expert medical and nursing service.
2. They do not and cannot classify the insane.
3. In almshouses steel handcuffs, barred cells, cages and padlocks are used constantly to restrain the insane.
4. Modern sanitary and hygienic measures are unknown in almshouses.
5. Almshouses are often filthy and overrun with vermin.
6. There is no separation of the sexes. Illegitimate children are born of insane parents.
7. There is no hope of recovery.
8. From a humanitarian, economic and medical viewpoint the conditions could not be worse.
9. There are no means of occupation or recreation supplied.
10. The counties are anxious to be relieved of the care of the insane.

STATE CARE

STATE HOSPITALS

1. State hospitals provide continuous expert medical and nursing service.
2. They can and do classify the insane.
3. In State hospitals restraint is not used except in rare cases.
4. Modern, sanitary and hygienic accommodations are supplied in State hospitals.
5. The exterior and interior of these buildings are clean, neat and attractive.
6. It is impossible for such conditions to exist in State hospitals.
7. There is every possible opportunity for recovery.
8. In State hospitals, with their proper care, more economical methods and modern treatment, the conditions are ideal.
9. Industrial shops and recreation are provided in State hospitals.
10. The State is willing to assume the care and custody of the dependent insane.

IT IS THE SACRED DUTY OF EVERY PERSON IN MARYLAND TO HELP BRING ABOUT STATE CARE IN 1911

SPRINGFIELD STATE HOSPITAL.

The Dining-room, Seating Over 800 People.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D., *Editor*

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NATHAN WINSLOW, M.D., *Managing Editor.*

BALTIMORE, JULY, 1909

COLONEL GORGAS.

ONE of the most interesting historical periods of the world is that we are living in; among earth's greatest events are those we are reading every morning in the daily and medical press. In olden times, when our race was half asleep, the name of a great man was blazoned in letters of flame; nowadays great men are thronging in such numbers that only the thoughtful detect them.

Among those of our times Dr. Gorgas surely deserves honorable mention, and the American Medical Association has very wisely recognized his worth by electing him to its presidency.

A Southern man, educated in New York, Dr. Gorgas, when army surgeon, came first prominently to the attention of the public by his good work in Cuba during and after the Spanish War. The sanitary condition of Havana was a problem worthy of the greatest medical acumen, combined with the highest possible talent for organization, and Surgeon Gorgas proved himself the man for the place. As sanitary officer in charge, he there proved to the world that yellow fever is a disease that can be excluded from civilized communities, and can be quickly stamped out if it has gained a foothold. Other medical heroes, at the price of life or health, had demonstrated the mosquito origin of the yellow scourge. Surgeon Gorgas first applied their doctrines to a great community successfully.

Then came the Panama Canal, that destroyer of reputations and bottomless abyss of expense, into whose insatiate maw had disappeared tens of thousands of sturdy workmen, overcome by its deadly miasms. In Surgeon Gorgas again the place found the

man, and today, by his war against poison-bearing gnats and sanitary neglects, Panama stands among the healthy spots of earth's surface, while the great interoceanic canal looms complete in the near future. It is a great record for one man, but he is a great man.

The work of Dr. Gorgas is not so much to be noticed in its wonderful accomplishments, of problems never before solved, as in its still more wonderful prophecies for the future. The growing Caucasian race has occupied practically all of the surface of the world by it inhabitable. Dreams of great temperate continents at the two poles have been dispelled forever; the north pole is known to be in the midst of a great shallow ocean, and the south pole lies among mountains and high tablelands, covered year long with many feet of ice. The vast subtropical belt, containing probably the most fertile and most wealth-producing tracts of earth, has hitherto been to white men either not habitable or the begetter of a feebleness and lassitude of body which paralyzes all lofty enterprise.

Engineering science has done marvelous things for the deserts of earth, and promises yet more. Mining science has built cities amid arctic snows. But race expansion seemed to have reached its limit under these older conditions. Suddenly medical science leaps to the front and pioneers the way, under Dr. Gorgas and his coworkers, to the building of vast empires of hustling white men in the heart of the miasmatic tropics. "There is yet much land to be possessed" is the new slogan of the new century. The astonishing reports from Porto Rico of race decay checked by thymol, and these revelations of the relations of the rat flea and the mosquito to miasmic diseases and epidemics, are but the opening of a chapter which before it closes will crown preventive medicine as the chiefest promoter of commerce and civilization of the wonderful twentieth century.

Even if the proverbial relaxation of energies after lifelong residence in the lowland tropics should persist, it is certain that under new sanitary conditions new adventurers will throng for short periods of residence thither, bearing with them the hoardings of colder countries and stimulating the inert natives to busier activities. At the seaside and in the hills temporary revival of energy can be obtained. South America is thus undoubtedly to be the new continent of the future.

Medical Items.

Gordon Wilson, M.D., has resigned his commission as assistant surgeon in the Fifth Infantry.

The degree of LL.D. was conferred upon Randolph Winslow, A.M., M.D., at St. John's College, Annapolis, on June 16.

The Lunacy Commission has issued an attractive little eight-page folder entitled "Facts," which is being used effectively in their campaign for state care.

E. L. Bullard, formerly of Wisconsin, has opened a sanitarium for the treatment of mental and nervous diseases at Rockville, Md. It will be known as Chestnut Ridge Sanitarium.

Samuel Claggett Chew, A.M., M.D., has resigned as professor of medicine at the University of Maryland. Dr. Chew has occupied this chair since 1886.

Major Alexius McGlannan, M.D., chief medical officer of the First Brigade, Maryland National Guard, will attend a camp of the Army Medical Department, to be held at Antietam from July 29 to August 11.

The ninth annual report of the Supervisors of City Charities has just been issued. It is large and well illustrated. The report of actual conditions at each hospital receiving municipal aid is exceptionally good.

The building at 847 North Eutaw street, the former home of the Medical and Chirurgical Faculty, has been sold to the Musical Union of Baltimore, which will convert it into a clubhouse.

The Maryland Committee for the Prevention of Blindness was organized June 16, with a number of the most prominent physicians and laymen of Maryland as active members. Mr. Charles J. Bonaparte is the chairman; vice-chairman, Dr. Hiram Woods, and secretary, Mrs. J. C. Bloodgood.

Eugene Lee Crutchfield, M.D., U. of M., '87, Fellow and Gold-Medalist of the Society of Science, Letters and Art of London, England, has been elected to fellowship in the American Academy of Medicine. This is the most exclusive and scholarly medical association in this country. Admission is granted only to those who either have secured academic degrees upon graduation from colleges or universities of repute, or who can furnish unquestionable evidence of equivalent scholastic endowments.

Among the many physicians who are spending part of the summer out of town are the following: Dr. Harry Friedenwald, in Switzerland, Germany and Italy; Dr. W. D. Olmstead, Buena Vista Springs; Dr. Samuel Theobald, in Ocean City, Md.; Dr. Clement A. Penrose, in Nantucket, Mass.; Dr. William Green, in Europe; Dr. Hiram Woods, at Blue Ridge Summit; Dr. Thomas R. Brown, at Blue Ridge Summit; Dr. John R. King, in France; Dr. R. Tunstall Taylor, in the Blue Mountains; Dr. Charles E. Simon, in Nova Scotia; Dr. Robert W. Johnson, in Raquette, N. Y.; Dr. Charles S. Woodruff, in Canada; Dr. Carl Voegtlein and Dr. Acree, in Switzerland; Dr. John C. Hemmeter, in Portland, Maine; Dr. Lewellys Barker, in Europe; Dr. Thomas H. Buckler, in Europe; Dr. Henry Barton Jacobs, in Europe, and later at Newport; Dr. Thomas Cullen, in Europe; Dr. William T. Watson and Dr. W. Preston Miller, in Europe, and Dr. Charles M. Andrews, in Switzerland.

MARRIAGES.

Frank Wheeler Hornbrook, M.D., Medical School of Harvard University, to Miss Anna Maria Kelley, June 12, at Tobyhanna, Pa.

William E. Moseley, Jr., M.D., Baltimore Medical College of Baltimore, Md., to Miss Sadie B. Armistead of Cleveland, May 27.

James Edward Benson, M.D., University of Maryland, '84, of Cockeysville, Md., to Miss Laura Taylor of Hagerstown, June 1.

Edward Mellus, M.D., Medical School of Harvard University, '03, of Newton, Mass., to Miss Marion Heath of Augusta, Maine, June 1.

John Martin Elderdice, M.D., University of Maryland, '05, of Mardela Springs, Md., to Miss Edna Adkins of Salisbury, June 2.

Joseph Kent Worthington, M.D., to Miss Mary Worsdale Spencer, June 7.

DEATHS.

Thomas Perry Robosson, Baltimore Medical College, at his home in Flintstone, Md., May 28, aged 75 years.

Elizabeth M. Knell, M.D., Missouri Medical College, '86, at her home at Slate Hill, Pa., June 5, aged 54 years.

James H. Thomas, M.D., University of Maryland, '51, at his home, near East Newmarket, Md., June 20, aged 82 years.

Horace A. Paxton, Jefferson Medical College, '81, at Lexington, Va., aged 66 years.

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IDEALS OF HEALTH IN TOWN AND COUNTRY.

(Continued from Page 290.)

requisite the coexistence of brains in three people; the ever watchful mother, the competent physician and the enterprising druggist; for the mortality of diphtheria increases enormously by the neglect of observation and warning on the part of the mother, of knowledge and action on the part of the physician, or competency in selecting and renewing his antitoxin on the part of the druggist. Is it necessary to recall other triumphs of medical science? Shall I tell of malaria, against which empirical treatment, as a result of accidental observation, had been wonderfully successful for centuries before a French army surgeon serving in Algeria discovered the living cause of the disease and inscribed the name of Laveran upon the scroll of fame. This was a matter of recent years, and is known to all. But of yesterday, almost, was the victory over yellow fever, won by our own countrymen, when from bleeding Cuba Reed, Carroll, Agramonte and Lazear published their immortal report of work done there—work that was to cost the lives of three of these heroes, fighting a peaceful battle, whose winning meant the lives of millions uncountable and new fields of enterprise made available in the richest zones of the world. These are some of the great victories of humanity under medical direction, but by no means all. I say nothing of the advance of surgery, or of the utter extinction of typhus fever, once a dreaded scourge, but now known only as a disgrace to any community in which it exists; nor of once dreaded scurvy, that ruined great enterprises well equipped and abundantly provided with everything except knowledge of the proper kind. Time presses. Are all of our problems solved? Far from it. People still die. They do not die as young as formerly, but man cannot live forever. His time is set, but he has during the past century, of his own volition, assisted by a few divinely inspired men, added a third to the average length of his life. Can death be pushed further back? Unquestionably. At least a third of those who die annually in the United States die of disease that need not occur, diseases that are almost crimes upon the city or State in which they exist and often a crime ignorantly perpetrated upon their innocent victims. Typhoid fever, tuberculosis, syphilis, gonorrhea, cholera infantum, scarlet fever and diphtheria are all names of diseases that need never spread beyond a single case. That they do so is manifest evidence of crass ignorance or flat defiance of well-known sanitary laws. And yet how many die of these very diseases, and how many others, who do not die suffer untold agony for weeks and months, sometimes for the remainder of their lives, as a legacy from a primary attack? Shall this state of affairs continue? Shall civilized people knowingly expose themselves and their children to dangers that are easily avoidable, but which may produce long periods of sickness and possible death? We have been negligent in these matters too long. It is time now for us to bestir ourselves and preach a crusade against these vices, for vices they are, bred of ignorance and neglect.

(To be Continued.)

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Book Reviews.

THE POPES AND SCIENCE: THE HISTORY OF THE PAPAL RELATIONS TO SCIENCE DURING THE MIDDLE AGES AND DOWN TO OUR TIME. By James J. Walsh, M.D. New York: Fordham University Press. 1908. 8vo; pp. 431.

This book seems to have been written chiefly as a refutation of the work of Andrew D. White, former president of Cornell University, "On the History of the Warfare of Science with Theology in Christendom." Whilst acknowledging that there have been historical incidents in which church authorities and ecclesiastics have assumed an attitude distinctively opposed to true scientific advance, Dr. White claims that they are "ever so much rarer" than is thought. Gallileo, for instance, was prosecuted by the Inquisition on account of his astronomical teachings, but this was practically the only time that such a thing was done. That there was opposition to science of every sort is certain, but it did not proceed from the church; it was that natural opposition which men exhibit in all ages to new ideas. It is seen among scientists themselves and in the professional jealousy and shortsightedness of physicians.

Professor Walsh is not an impartial historian, and one who would get at the whole truth must recollect that he reads only one side of the controversy in Dr. Walsh's book. And it is a bad sign when the author repeatedly charges those who differ from him with entire ignorance of the history of science.

MEDICAL AND MINOR SURGICAL DISEASES OF WOMEN. By Samuel Lile, M.D. Illustrated. Baltimore: Southern Medical Publishing Co. 1909. Price $3.50.

This book is all that the author claims for it. It is not exhaustive, but covers the field sufficiently to be of some value to the student or medical practitioner. The simple style in which it is written makes it a book of real value to the nurse. The first half of the book covers the anatomy of the generative organs, methods of making examinations, with plates illustrating the various gynecological positions and the cause of the commoner diseases.

The latter half covers the etiology, symptomatology, complications, diagnosis and the treatment of minor surgical diseases. In the treatment of these diseases antisepsis and asepsis is strongly advocated. Many formulas are given that are useful. The book is printed in a clear, bold type and on good paper.

VACCINE AND SERUM THERAPY. By Edwin Henry Schorer. St. Louis: C. V. Mosby Company. $2 net.

In this work the author has endeavored to bring together the most important features of the recent contributions to the subjects of vaccines and immune sera. Infections and immunity are briefly discussed. The greater part of the book is concerned with a discussion of opsonins, the methods of determining the opsonic index and the importance of opsonins in health and disease. The author has described rather clearly the technique employed in obtaining the opsonic index, and has pointed out the difficulties and inaccu-

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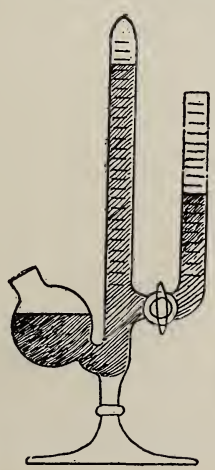

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racies associated with the method. The use of the various vaccines is taken up to some extent, and the uses of the various sera are also considered. In short, the little work is a fair resume of the enormous amount of work which has been done in this field in the last five years, and the book is well worth the study of anyone who desires to familiarize himself with this important subject.

Diseases of the Rectum. By Louis J. Hirschman. St. Louis: C. V. Mosby Company. $4 net. 1909.

The author is disgustingly vain. He endeavors to leave the impress upon his readers of what a great man is he. In another edition, if he would leave out "the author" and more frequently employ the impersonal, a more readable book will ensue. Although nothing new or startling is brought out, yet the book fills a long-felt want, namely, an office manual-guide for the general practitioner. As in all other lines of medical endeavor, the author emphasizes the importance of taking nothing for granted, but insists upon actual examination of the patient seeking advice. The field and limitation of local anesthesia in rectal surgery are thoroughly discussed. Owing to the important information gleaned from a careful examination of the stool, a chapter is devoted to the requisite technique. Above all, the subject-matter is based upon personal observation and is not driblets from others. The cuts are admirably executed and materially simplify the text. The printers are to be congratulated upon the excellent workmanship, and the author upon the thoroughness of his contribution to the knowledge of that oft-neglected subject, rectal diseases.

International Clinics. A Quarterly Review of Illustrated Clinical Lectures and Especially Prepared Original Articles by Leading Members of the Medical Profession Throughout the World. Vol. 2, Nineteenth Series, 1909. Philadelphia: J. B. Lippincott Company.

The reputation of this well-known publication is well known to all lovers of original work. Among the articles which especially impress us in the volume before us are the following:

"Mineral Waters in Syphilis," by Carriere of Paris. An exposition of the value of sulphur waters in rendering mercury soluble, in preventing mercurialism, in enabling the patient to take large doses.

"The Cambridge Reaction," by Goodman of Philadelphia. Any attempt to perfect a test for pancreatitis is worthy of attention.

"Surgical Pneumothorax as a Treatment for Phthisis," by Dumarest of the Hauteville Sanatorium, Paris. In cavities he pumps nitrogen into the pleural cavity, compressing and immobilizing the whole lung, after the method of Forlanini. Three brilliant successes are analyzed, with directions and cautions. It looks like a good method.

Special Hospitals. By Richard Kershaw, M.D. London, England: George Pullman & Sons.

This brochure contains chapters on the "History of Medicine," "Special Hospital Chronology," "Freedom and Abuse," "Lists of Special Hospitals." It is copiously illustrated with cuts of historical import, and is written in a simple and entertaining style.

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THE WIDENED SCOPE AND AFFILIATIONS OF PSYCHIATRY.*

By Clarence B. Farrar, M.D.,
Associate in Psychiatry, the Johns Hopkins University.

THERE are two circumstances which just at this time are centering attention in an unusual degree in that part of medicine which deals with diseases of the mind. The first of these is the fact of the opening next year in the Johns Hopkins University of the new department of psychiatry, which marks an epoch in medical education in this country. In his valedictory address four years ago Dr. Osler set forth some of the needs of the immediate future in the inevitable expansion of the work and influence of the Johns Hopkins Hospital. Foremost among these he named the psychiatric clinic, which, he said, should take its place in the hospital quadrangle within the ensuing 25 years. Ere one-fifth of that time has passed the prophetic hopes of Dr. Osler, in which we all so heartily shared, are about to be realized.

The other reason for the current interest in psychiatry is the admirable campaign which has in the past year been carried on by the Lunacy Commission in the interest of the mentally ill among the lower strata of society throughout the Commonwealth, and which has emphasized in the most striking way the urgent need that the State assume the entire supervision and care of this class of sufferers. The new commission was organized in July, 1908, and in the remaining six months of the year was crowded a vast deal of work. The secretary personally collected detailed information as to the conditions prevailing in every public and private institution in the State, and this information has been put together in the recently issued annual report of the commission. In this report the needs of the situation and the way to their realization stand revealed, and it commends itself to the thoughtful attention of every citizen.

But to come to the more intimate parts of our subject, we are at once painfully conscious of lingering defects, popular misapprehensions and maladjustments always so tardy of correction.

*An address at the Dedication Exercises of the Medical and Chirurgical Faculty of Maryland, May 13, 1909.

Though banal, we may do well to refer to them, for we may then encourage ourselves with the signs of hope which are in the air.

Sixty years ago Froude, the English historian, remarked of the professions that not more than one in fifty took clerical orders who had a chance in any other line. If this remark was true two generations ago, it is still more true today, and I think we may, in medicine, make a similar application by saying that not more than one in fifty goes into psychiatry who has a chance in any other medical line. The original remark was no compliment to the church; the latter one is none to psychiatry. If it be a fact, however, let us have it and try to understand it, for to this circumstance must be ascribed in large part the delay which has ever attended the advancement of the science as a major branch of medicine.

A glance at the beginnings helps us to see why these things are so. We recall that the healing art in its entirety lay first in the hands of the priests. From them it was taken over in its entirety by the ancient Greek school of physicians. But an inherited prejudice had passed over among the people, and in the face of the clear teaching which prevailed throughout the illustrious period of Grecian medicine from Pythagoras to Galen, which reappeared in the Renaissance after the dark ages of faith had passed, and which finally triumphed in the school of the somatics before the nineteenth century had half run its course—in spite of all this there has continuously lurked in popular thought an idea of mystery and extranaturalism in all pertaining to the operations of the human mind. Beside or over the mind has been enthroned the soul as something in some way distinct, although the two must needs be closely interactive. But the soul was assumed to stand in imminent relationship with the Deity. The mind must therefore also have near associations with extranatural agencies. Finally, the words "mind" and "soul" are used interchangeably. The Germans still speak of mental diseases as *Seelenstörungen*. But among the people there are probably few who are willing to admit that the mind or soul, both in health and disease, is subject to precisely the same body of natural laws proclaimed by Humboldt, which control our corporeal functions and every manifestation of animate and inanimate nature, and that it is subject to these alone.

It is perhaps not altogether strange, therefore, that 2500 years after the vogue of priestly authority has ceased in matters of physical illness it should still appear to have something to say about the normal and abnormal ways for the mind to work. So it has been that the physician, busy enough with the diseases of the body, has often neglected the tedious and troublesome diseases of the mind, or has even deliberately placed them outside his field of interests, and so it has been that nerve-distraught sufferers have still consulted spiritual as well as, or instead of, medical authority; at least they have done it in Boston.

Let me in a few sentences place before you a clinical picture, an illness for many reasons the most distressing which can befall a human being. It is a disease of the time of life when the shadows

are lengthening from the West in patients many of whom are already faring toward the dark valley. The disease is characterized by unutterable woe. The victim suffers the pangs of remorse for fancied sins and crimes of the most heinous kinds. In that lurid description of melancholy, "The City of Dreadful Night," we find terrors enough, but even these may pale before the distorted creations of the patients' minds of whom I speak. They are dominated by a single thought—their own sinfulness and perdition. They declare themselves moral outcasts from their birth; they were even born to be damned. They are unwholesome to human society and unworthy of food or raiment, of the bed in which they lie, of the very air they reluctantly breathe. They have bartered away their immortal souls, and the pains of the present are to be continued into the more exquisite tortures of the beyond. Indeed, the devil stands in almost bodily presence by their bedside waiting to claim them for his own. As we contemplate this dreadful state, which, unhappily, is not very rare, we fancy we are looking upon one of those medieval paintings in which demons and angels surround the bed of the dying, disputing their rights to the possession of his soul, or it is as if we were perusing the pages of the fathers of the church, with all their unspeakable descriptions of the torments of the damned, so near akin are the patients' ravings to these earlier serious representations.

But what I have been describing are symptoms of a particular form of mental illness, which, like other diseases, has its natural causes, course and event. We have some notions as to its etiology, we are familiar with the progress of symptoms and we have some indications as to the therapeutic measures which should be employed, but the point of importance is that we recognize from first to last that we are dealing with disease, and not with questions of vice or virtue, reward or punishment.

Not always even among physicians, however, have these rationalistic interpretations been used. Not 100 years ago there appeared in Germany, from the pen of the Leipsic professor, Heinroth, a treatise on the maladies of the soul, which, had a patient read it, would have given him full warrant for such depressive delusions as have been described. Heinroth was the last of the spiritualistic or moralistic school in psychiatry. His thesis was that sanity and righteousness are synonymous, and that mental illness is the *prima facie* evidence of defection from God. Therefore, the etiology of alienation being sin, repentance is the only cure and piety the only prophylaxis.

Heinroth stands at the close of a transition period between scholastic empiricism and the modern rationalistic tendencies, a period which embraces the latter part of the eighteenth century and the early part of the nineteenth. During this period the authority of philosophy was in the ascendant, and under the leadership of Kant and his contemporaries philosophy attempted to reclaim for itself that which centuries before theology had lost to medicine. It claimed the word of authority in questions dealing

with illness of the mind. Indeed, Kant expressly stated that mental disease was the field of the philosopher rather than of the physician, and this teaching is responsible in no small measure for the slow advancement of the science of psychiatry.

The revolution was to come with the nineteenth century, in the midst of which are two dates of the first importance. These were 1843 and 1845. The first marks the death of Heinroth, and with him, let us hope, the permanent extinction of the moralistic movement. The second date is that of the appearance of the "Textbook of Mental Disease," by William Greasinger. This book marked the triumph of the somatics over the spiritualists, and with it there were reinstated the Hippocratic and Galenic doctrines that mental disorders are disorders of the nervous system; that somatic and psychic disturbances are always found in association; that both are due to similar natural causes and are alike the province of scientific medicine. It is in the light of the teaching of Greasinger that we are still living.

I have referred to some of these historical points in order that we may have before us some conception of the devious path along which our science has advanced and of some of the obstacles which it has had to overcome in realizing itself. But not only have there been the impeding prejudices of theologic or philosophic origin which have passed along from generation to generation; there is even still what we may speak of as an official neglect of psychiatry. This neglect we find, first, in the medical schools themselves. In this country, even in those institutions which furnish instruction in mental pathology, the subject appears as one of the minor specialties. But what the medical schools thus partially neglect the State neglects entirely, for it does not require of its practicing physicians any knowledge whatever of mental diseases, although, as a triumph of inconsistency, it may require any physician to qualify as an authority to pass upon the mental condition and responsibility of a patient assumed to be mentally ill. In this, as in all other allied subjects, Germany has shown us the way, and in that country for eight years psychiatry has been one of the subjects required in the State examinations for the practice of medicine. Shall I seem to be drawing the analogy too far in asserting that medical teaching which does not include normal and abnormal psychology may be likened unto the training of professional teachers which should take no account of pedagogy?

It may be objected that psychiatry is, after all, only a special branch of medicine and of no greater interest or value than the other special branches to the general practitioner, and that he does not commonly have to do with mental disease. These objections, however, are fallacious. Every practicing physician has every day to do with disturbances of the psychic life, and if he had been taught to understand them better we should less often hear, for example, this expression: "The patient is very nervous, but has no mental symptoms." There is, indeed, the greatest variety of mental ailments, many of them of a mild or transitory form, with

which the physician has constantly to deal. There are the attacks of unaccountable "blues" and the possibly less frequent phases of mild elation; the psychic disorders of menstruation, often of a serious type; the abnormal psychic states of pregnancy and afterwards; the different exhaustive, infective and febrile conditions, not to mention that slough of despond which is filled with the psychoneuroses. Moreover, there are the associated mental states in the various bodily diseases. There are the so-called "thoracic euphoria" and the "abdominal despair." In prescribing for the most commonplace affection is it not equally important that the physician address himself to the patient's mind? In short, everywhere the question of mental relationship and adaptation is paramount, and to correctly answer it demands training and experience no less than does the setting of a broken limb.

In that rather remarkable book, "A Mind That Found Itself," the author has made a very true statement. The modern psychiatric clinic, he observes, is in reality a sort of kindergarten. There are, in fact, many points of contact between the developing mind of the child and the disordered mind of the adult. Both require correction, both require discipline, both require education, and in both the ends can only be satisfactorily attained by an intensive individual method of treatment.

This is the most important point which I shall have to present in this discussion. As William James remarks, "Individuality outruns all classification," and the further one widens his observation of mental derangements, the more useless does he find the attempts at classification to be. Borrowing the habit from the sister branches of medicine, psychiatry has constantly busied itself with the attempt to define the range of individual diseases which shall make up its field. As a result all writers of treatises on the subject describe a certain number of type cases. These are found to be relatively few. Ever-increasing space must then be given to the atypical forms. These are many. Finally, there remains a heterogeneous mass of undiagnosed cases. These are also numerous. The fact is that the more deeply one inquires into individual mental states, the more one realizes that in psychiatry there are really as many different diseases as patients. It is, however, only by the intensive individualistic method that we arrive at this conclusion.

In a word, the object of our investigation in each case is the *psychotic individual* rather than the *individual psychosis*. From this point of view the psychotic complex resolves itself gradually into two groups of symptoms. The first group embraces what we may speak of as the accidental or acquired symptoms, those which represent the psychosis proper through which the patient is passing, which make up all the new and unaccustomed manifestations in the mental life of the individual which his disease has brought forth. But behind or underlying this group of manifestations, showing through or modifying them, or in turn modified by them, is the second group, which we speak of as the constitutional char-

acters, the endogenic symptoms in the narrow sense. These symptoms are the more intimate expression of the morbid potential which in varying degree inhabits every human soul, which constitutes, as it were, the individual handicap with which each one must run the race of life.

It is self-evidently important that we should in every case attempt to separate these two classes of phenomena. The distinction also directly suggests the therapeutic program, which similarly falls into two parts. In the first place, we must make conditions favorable for recovery from the psychosis proper, for the subsidence of the acute or accidental symptoms. And this is often the easier part. But after this what is in many instances the real task confronts us, namely, the attempt to modify or readjust the constitutional elements in the case. And herein lies the specific function of the individualizing method. To get well is sometimes easier than to stay well. In many cases the constitutional elements are the breeding ground of psychotic tendencies of no mean order, which have taken form as the patient's veritable familiar, and to which through years of companionship he may have grown unconsciously enslaved. To accomplish amendment in these things is always the great desideratum. To realize perfectly this object, manifestly only a Utopian dreamer could hope. Nevertheless, there is much which may be done. The psychogenic factor in the etiology of mental disorders is attracting ever-increasing attention to itself, and where through synthesis a morbid complex has established itself, there through analysis the complex may be reduced, possibly to the permanent benefit of the patient. In suggesting new aims and possibilities, in offering new ideals, in shifting the viewpoint of life, in rationalizing the so-called vital questions according to the individual needs, in restoring the sense of personal values and proportions, in harmonizing subject and object, in attempting by substitution to diminish or mitigate all injudicious and inexpedient tendencies in thought and feeling—in all of these things abide the widest and deepest and ultimate purposes in mental medicine.

Constantly recur in closest association the two ideas—recovery, re-education. May they not, indeed, be fused into a dual concept? The most favorable cases at least lend substance to the view, and it is certainly possible to observe salutary alterations in the personality as a patient emerges from his psychosis, which may be comparable with the physical amendment often succeeding typhoid fever, and to the development of which as a permanent asset we believe it possible to contribute.

In this subject we strike at once, of course, into the question of prophylaxis with regard to possible future mental illness in a recovered case.

In what has been said are already suggested some of the varied interests and affiliations of psychiatry, and with their brief mention I must close. Its likeness to pedagogy has been referred to, and the similitude cannot be too much emphasized. But it is not in

dealing alone with grown minds gone wrong, but with young minds in process of going wrong, that medicine and psychiatry have come to have an important word to say. Next to eugenics, psycho-orthopedics is perhaps the most important department of human science. In this field are to be worked out the fundamental problems of education, in individualizing instruction and training, in differentiating aptitudes and capacities, and in protecting growing minds from the consequences of that bugbear of youth, *surmenage*. Here arise the questions of backward and precocious children, and in both classes the same careful safeguarding is necessary. It is just here that the ounce-of-prevention maxim finds its truest application. It is only too common in our daily work with grown patients to find underneath the psychosis definite and noxious constitutional signs such as have been mentioned earlier and which represent vicious intellective and affective tendencies, bad mental habits of all sorts, which were allowed to develop either at home or in school during the early formative years, or particularly during the puberal epoch.

Finally, we have to deal with delinquent and criminal types among children from the medical, psychologic and sociologic viewpoints. Ground is just being broken in this vast and almost virgin field by the organization in Chicago of the Juvenile Psychopathic Institute, to be conducted in connection with the Juvenile Court, which has been in successful operation in that city since 1898. The possibilities of this splendid movement can hardly now be estimated. It is only slowly feeling its way, but its object is to strike at the keynote to the whole situation in the fields of psychiatry and criminology, in discerning and dealing scientifically with mental deviations in their incipiency in young subjects of the types from which sooner or later the population of penal institutions and hospitals for mental infirmities is recruited.

In movements such as this one in Chicago, and in all the educational efforts where medicine and pedagogy combine, we behold the first attempts at rational prophylaxis in mental disease, a prophylaxis which seeks to become effective during the critical years when the seeds of psychotic potential, if not of actual psychosis, so readily spring into baneful growth.

The Juvenile Court system has suggested the fruitful relationship which should subsist between psychiatry and the judiciary; and in this direction stretches another open field with conspicuous possibilities of development. It is a great misfortune that psychiatry and criminology do not stand in more intimate association and co-operation in the daily practice in the criminal courts in every city. At the Prefecture of Police in Paris an expert alienist is in regular attendance. For years this post was held by Paul Garnier, with whose name, in fact, the present organization of the work of the department is identified. He presided over a veritable mental clinic within the walls of the prison-house, there being set apart for this work, a

portion of the building where are segregated and carefully observed all cases of doubtful mental state.

Every alienist is aware how common are abnormalities of mind in those arrested for crime, and how frequently "justice" is meted out unjustly, not only for the accused, but, what is often more serious, for family and friends, through the misinterpretation of officials untrained in abnormal psychology and who unavoidably judge by the fickle standards of assumed normal mentality.

Concrete cases which illustrate this unfortunate state of affairs are exploited almost daily in the newspapers, and they make up a much neglected chapter in psychiatry. A young man becoming hypomaniacal is arrested on the charge of being drunk and disorderly. Fetishists of various types are frequent stumbling-blocks to the police officials. The Whitechapel outrages and the variegated chapter of crime to which they call attention, including the milder-mannered fetishists who slash garments, throw acid upon the skirts of women passing in the street, or purloin articles of feminine apparel, are all to be dealt with not alone or primarily from the standpoint of crime or punishment, but rather as types of pathologic personality. The chapter of journalistic psychiatry includes also various conditions of trance and ecstasy, hysteric and epileptic alterations of consciousness, second states, impulsive acts, confabulation, perversions of the religious and erotic sentiments, with their corresponding offenses, and finally the whole range of psychopathic and degenerative types, including tramps and ne'er-do-wells, the exiles and outcasts of society and the habitual criminals. In dealing with all of these classes there should be the most intimate and constant co-operation between jurist and alienist, and how imperfectly has this co-operation been accomplished!

In these cursory observations we have considered only a few of the increasing demands which must be made of psychiatry in her contribution to human well-being. Along many of the roads she must travel, but little ground has yet been covered and her affiliations are not yet as numerous or as intimate as they are bound to become. Our own State of Maryland has not been a pioneer in the advancement of this science. At the outset of this discussion were mentioned the two circumstances which are serving just now to focus attention upon the subject. The conjunction of these circumstances is portentous, and by virtue of their combined effect may we not hope that Maryland will presently take her place in the foremost rank, second to none of the other States, or indeed as the leader in an enlightened endeavor to promote and maintain a sound mentality throughout the community?

IDEALS OF HEALTH IN TOWN AND COUNTRY.

By Charles O'Donovan, M.D.,

[CONTINUED FROM JULY NUMBER.]

Standing on this platform tonight I venture, in no uncertain tones, to predict that the time will come, and in a future not far distant, when tuberculosis will be as rare as leprosy is now and when typhoid fever shall cease to figure in our weekly lists of diseases. Already the battle is on. Throughout the entire world determined men and women are grappling with the great white plague. Koch's discovery of the bacillus of tuberculosis in 1882 cleared at once the horizon and showed us how to contend with an enemy who had been shrouded in mystery up to that time. That tuberculosis was a communicable disease had long been known, although the fact was not universally accepted, but the painstaking Koch demonstrated the very method by which it was spread and proved that the microscopic organism, first seen by him, was the only means by which it could pass from one human being to another. This was the seed, produced in innumerable numbers by those already infected, that must find in another individual a suitable place to implant itself and grow, thus producing a new case of tuberculosis. Like a noxious weed it casts its seeds to the winds to find fresh fields to destroy. The weed blooms and fruits but once in a year; the man who, in coughing and spitting ejects sputum laden with tubercle bacilli, is poisoning the air and polluting his surroundings every day and every hour of the day. The problem presented to those who would control and eradicate this disease is twofold—to limit the sources of infection, as one digs up and burns the weeds, and so to increase the resisting power of those who may be exposed to the contagion as to enable them to escape unharmed from this peril. This is done by educating those people who are capable of education and compelling the others to follow certain definite rules that are for the general good. To the individual this, at times, works hardship. It is not always easy to live according to the precepts of science for the good of the race. In this contest, as in all others, individuals must suffer that communities shall be benefited. Fortunately, in the matter of tuberculosis the burden can be lightened. Compared with many other contagions that of tuberculosis is extremely mild. Where ignorance exists this has been one of the difficulties, for the beginnings of the disease have been so insidious that quite frequently the case has advanced beyond the possibility of control or cure before it has been recognized. But with increasing knowledge and improved technique we have at our disposal means of deter-

mining tubercular infection in its earliest stages. All that we ask is that the ailing one shall consult a physician rather than treat himself for some imaginary disease whose symptoms are described in the daily or weekly papers among patent-medicine advertisements, and that the physician shall be a good diagnostician imbued with that scientific doubt which compels him to leave no means untried in making a diagnosis. See a doctor. Consult a man who knows something, not an advertising quack who lives a thousand miles away and produces universal panaceas designed to rob the sick and lead to death those who might easily have been saved. At least one-half of the cases of tuberculosis could have been cured if seen early enough; the other half were doomed from the beginning because of hereditary taint or vicious environment. These hopeless cases arise chiefly among the poor, who live in hovels, starving for want of food, freezing for lack of warmth, stifling in rooms too close and damp to afford proper air to breathe—places knowing no sunlight and no ventilation. These will remain the last strongholds of tuberculosis when it shall have been extirpated from all decent localities. This will be a problem hard to solve. Our effort now is to have the State assume charge of the unfortunates who develop consumption and who are not able to care for themselves, just as is done with the insane, because such are useless to themselves and a positive menace to those around them. They must be persuaded to leave their former habitat; they must give up their families, either temporarily or permanently, for the sake of those whom they would save from the consequences of their illness. This is a hard saying, but it can be mitigated. If these cases will seek aid early enough, they can be cured in many instances. The earlier they come for help, the greater is their chance for cure. Such are to be sent to the mountains, to the fields, to the sanatoria where tuberculosis is treated as a curable disease, where they will get well and whence they may return home again to take up their work and support their families. These should have no cause for complaint. Those others, too far gone to hope for improvement, whose lives are miserable in ways known to all here, who cough day and night, whose expectoration is laden with contagion, whose strength is gone, who have no taste for food, whose wasted frames are consumed by fever and drenched with hectic sweats, is it too much to ask that they shall be segregated in some hospital, under proper care, where their waning days may be made somewhat more comfortable and infection be localized or destroyed rather than spread abroad? It seems at first sight a hard gospel to preach, but the strong have rights as well as the weak, and it is better that one should suffer than that many should die. A case of advanced tuberculosis is a standing menace to all about it, especially to those least able to protect themselves; to women, who must be always in the foul atmosphere of the home, and to children, innocent, but most susceptible inhalers of the polluted air. In taking up this responsibility the State should as far as possible respect the prejudices and convictions of the indi-

vidual, thus lessening the trial, and should be prepared to offer to the sick man something a good deal better than he can afford to obtain for himself. This means that money must be spent in quantities sufficient to attain these objects, the hospital buildings should be attractive and the surroundings pleasant, the food and accommodations should be above the average and the medical attention and nursing should be satisfactory. The time has passed when lazar-house methods can succeed. If consumptives can be shown that they are considered to be human beings, not outcasts to be shunned and hurried to an early grave, I believe that they will voluntarily accept a situation terrible to themselves and hard to all concerned. The most important feature to be recognized and taught in this whole matter is that tuberculosis is, under good circumstances, a rather mild disease, easily curable by slow but sure methods of treatment, and that its virulence arises from accidental circumstances pertaining either to the patient or to his surroundings.

[*To be continued.*]

A STUDY OF SOME PHASES OF FAMILY PSYCHOSES.

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READ BY TITLE AT THE MEETING OF THE AMERICAN MEDICO-PSYCHOLOGICAL ASSOCIATION

[CONTINUED FROM JULY NUMBER.]

The succeeding group of cases to which I wish to refer is another illustration of what has already been spoken of. The early history of the antecedents I was not able to get fully, but learn that there was a maternal history of mental disease, and one positive fact was ascertained that one of these progenitors had committed suicide in the involutional period. The mother of the immediate family was said to have been a fairly normal woman, but the inherited predisposition was evidently exaggerated in the descendants—first because the father and mother were second cousins, and secondly by the alcoholic habits of the father. The eldest child is now a man of 50 years of age and a patient in a hospital for the insane. His early history was not eventful, he was bright and clever at school and was always well up in his studies. After leaving school he was given a farm by his father, and this he worked for many years. Owing to his alcoholic habits, which he early acquired, he was more or less unsteady in his work and changed from one place to another. He was always able to

make a comfortable living, however, and showed no change in character or disposition until about 45 years of age, when he became suspicious. This for a considerable time was all that was observed, and, being only a slight allopsychic disturbance, no special notice was taken of it. Later the quality of patient's work began to deteriorate, emotional instability became pronounced, alternating excitement and depression, with at times some irritability. The most pronounced change, however, was in patient's religious activity; he read the Bible for long periods and was greatly influenced by what he read. All of these things would probably have passed unnoticed if patient had not developed hallucinatory experiences of the auditory variety, and to these he reacted strongly. He would frequently run away from home to avoid the imaginary individuals who were threatening to mutilate and otherwise torture him. His memory became defective, and this, in conjunction with his active fallacious sensory perceptions and the superstructure of persecutory delusions, led to his being committed. His mental examination revealed the fact that he was suffering from a chronic alcoholic hallucinatory psychosis and that there was a fair degree of mental deterioration. He was childish, showed pronounced impairment of associative memory and was completely lacking in insight.

The next member of the family, now a woman of 48, is also a patient in the hospital in which her brother has been for some time. Her earlier history, too, is negative. She is said to have done so well at the primary school that her parents had decided to give her the advantage of a collegiate training, and this very fact may have been of etiologic importance—overstrain—because she had only reached the age of 22 when she was no longer able to adjust herself to her environment in the outside world, and her reaction indicated that she was suffering from some mental alienation. The change was chiefly affective; there was some growing indifference and a pronounced narrowing of interests, and there was also some modification of the ethical sense; furthermore, there was a vague history of hallucinatory experiences. Patient gave up her usual work, but her friends were able to care for her at home for many years. Finally, when about 40 years of age, because of the rapidly advancing deterioration, it was found necessary that she should receive institutional care and treatment.

The next two members of the family have to date been immune and have not suffered from any form of mental disease. The youngest, however, is not so fortunate and is recognized as being feeble-minded—in other words, showing the lowest type of mental disturbance exhibited in three generations. This individual's parents were aged 44 and 42, respectively, at the time of her conception, so that all the usual factors seem to be accounted for. Here, then, we have the history of a family where in three generations we descend in the scale of mental disturbance from a depressive episode with suicide to profound deficiency, as seen in the imbecile child of the third generation, and the descent is particu-

larly well illustrated in the generation which has been dwelt on at some length. From a patient with a chronic alcoholic psychosis not coming on until he has almost reached the fifth decade, we see the next member failing to reach the third decade and the last one born in an impoverished mental state.

The succeeding series serves to again point out one or two features which have already been observed. The first patient is at present 87 years of age and was an inmate of a hospital for the insane for only a short period, although his eccentricities and unusual character have always been the talk of the neighborhood in which he resides. Ever since his twentieth year he has been known by the name of Hallelujah Brown, this having been conferred on him because of his rabid fanaticism. Theoretically, his vocation was farming, but his avocation was preaching the Gospel and selling patent medicines. The work on the farm was always sacrificed for the avocation, although it was with increasing difficulty each year that his family was kept together and provided for. Finally, when between 70 and 80, his wife had him committed for a short time owing to his increasing childishness and to his absolute inability to adjust to his surroundings. His stay in the hospital was not a long one, and after being discharged he continued at his work of ministering and healing. His wife was a woman of low type, but hard-working and conscientious.

The first two sons were healthy, have always made a good living and have displayed a fair amount of initiative. One is a successful farmer and the other is a mechanic. The youngest son, now aged 25, born when his father was 62 years of age, was less fortunate. It was early recognized that his mentality was not strong, and when about 18 years of age he began to display criminal propensities, and still a little later developed persecutory delusions of a sexual character. On admission to the hospital the diagnosis of paranoid dementia precox was made on a basis of congenital defect, mild deterioration being present. The patient was susceptible to treatment along the lines of occupation, etc., and soon reacted less frequently and with less emotional disturbance to his delusions. For some time he accompanied his father in his journeyings and assisted in the religious exercises. The paranoid tendency was manifested in the son at at earlier date than in the father, and was probably present to a marked extent only in the son whose conception occurred in the sixth decade of the father. The other sons were born when their father was between 30 and 40 years of age.

The manifest tendency in some instances to the development of similar clinical types in different members of the same generation of one family is seen in the next group. Here on the paternal side there is a history of an aunt who was feeble-minded. The father showed no pronounced abnormalities, but the mother, while an active, energetic woman, displayed many eccentricities. The first two members of the family which resulted from this union have both developed a psychosis; a daughter much younger has also

become insane, while four other members of the family are able to earn a living and adjust themselves to their surroundings. The first patient, a man of 56, is a case of paranoid dementia precox, with only a moderate amount of deterioration; the second is a man of 47, with much more pronounced deterioration, the clinical features being the same as in the previous case, and the third is a case of hebephrenic dementia precox in whom the negative features predominate; a slow, progressive, deteriorating process appears to be going on.

The seeming tendency in succeeding generations to more pronounced deterioration is present in a group which may be dwelt with briefly. In the first generation the patient suffered from a depression in the involutional period; the daughter, being the representative of the second generation, likewise suffered from depression, while the patient in the third generation is suffering from dementia precox. I have one other example where an attack of depression coming on in the sixth decade in the father appeared at exactly the same period in the son, and the manifestations, as far as could be gathered from the history of the one and personal observations of the other, were almost the same. Fortunately, in this instance there was no third generation.

The frequency of a family reaction type I have observed again and again. As an illustration: Two sisters, both of whom I have observed, were cases of paranoid dementia precox in whom the delusional fabric was altogether of a religious character. They showed the same general reaction, the amount of intellectual deterioration in many directions was only slight, and the ability and desire to continue at some useful manual work was manifest.

In an analysis of 14 groups, where two or more cases occurred in one generation of the same family, the clinical features were invariably the same in the same families. In other words, there was apparently a decided tendency to a definite family reaction type, so that all the cases were easily assignable to the same given group. This was most evident where the clinical features suggested the mental disorder which we at present designate dementia precox, the fundamental features being a steadily progressive deteriorating process characterized by affect dementia, stereotypies, mannerisms, with the addition of various other symptoms, depending upon the variety of the disorder. In two groups, where there were four members of one family of the same generation, dementia precox was the diagnosis in every instance, and in this family there was a history of mental disturbance in the immediate antecedents. In other words, in the majority of cases where the eventual result was pronounced mental enfeeblement, heredity or mental disturbance in the forebears was present. Maniaco-depressive insanity showed a distinct tendency to appear in several members of the same family where there were a number of members of one generation of the same family insane, and this was a further corroboration of the tendency of families to show a characteristic reaction type. In one instance, where there were five members insane, all

were cases of dementia precox and all were diagnosed as being the hebephrenic variety. This uniformity in the clinical features in the different members of the same family in one generation was apparent time and time again.

Where there was insanity in one generation, and the type of disease was not essentially of a deteriorating character, mental disease manifesting itself in the next generation was more likely to be a deteriorating psychosis in the later rather than in the earlier children of the one-time insane antecedents. Several illustrations of this were found where one or other parent suffered from maniaco-depressive insanity the first or second child suffered from the same condition, whereas younger children suffered from dementia precox.

I do not feel justified in this very brief review of a broad subject in coming to any definite conclusions, but certain features seem suggestive.

1. There is an evident tendency, where several members of the same family of one generation become insane, to show a fairly uniform reaction type, so that it is possible to classify these cases as belonging to one given clinical group.

2. There is also evidence to show that with succeeding generations, a psychosis occurring in each generation, there is a lowering of the reaction type and a likelihood of deteriorating psychoses developing, and still further from the original antecedent a probability of gross defectives appearing.

AVICENNA—AVENZOAR.

(980-1200 A. D.)

FIFTH OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

CHAPTER V.

WE all remember how entrancing was that delightful conglomeration of fantasy, the Arabian Nights, and how the spell of wonder that held us in every magical chapter was charmingly unceasing to the end. The story of Aladdin and his lamp is almost the story of Arabia.

"Araby, the blest," was ever a land that lent itself to the fanciful. Its people were never so happy as when their flights of fancy bore them away to the hazy land of visions. Cold philosophy was all very well for a diversion, but as a steady diet it was incompatible with the warm Arabian temperament. To dream, to close the eyes and fancy, to follow the varying gyrations of the brain-whirls as

they arranged themselves into fantastic shapes, was more in keeping with their natures! They delved deep into magic, astrology and alchemy, and the greatest master was he who pointed out the easiest road to their solution. However, as we have already intimated, the followers of Mohammed were most enthusiastic in the search of knowledge; so much so that in their treaties it was always stipulated that a certain number of manuscripts were to be turned over to them. But knowledge was to be sought principally along those lines which were in keeping with their own temperaments.

All the mysteries of creation and all the truths of medicine would be opened up to them if they could only discover the *science of the key*. What they lacked and hunted for was a *balance* by which they could determine the gain or loss of all bodies. That they were on the right track to a great discovery has been proven by the founding of positive chemistry, as a result of the persistence of Priestly, Cavendish and Lavoisier, in the use of this same *balance*.

But the Arabian savant was not content to wander by the wayside. He fully believed that in the bottom of his crucible could be found the purest gold, and in the properly compounded liquid the elixir of life. But he lacked the *key!* He would find it in the philosopher's stone, and, presto! we should all be wealthy beyond avarice and have everlasting life! But he was as far from the discovery as was Ponce de Leon from the realization of his dream when he started out on his search for the fountain of perpetual youth, and long since the hunt for the stone that was to turn metal into gold has been abandoned by sensible folk, along with its *confrères*, perpetual motion and the squaring of the circle.

But while this search for the unattainable was going on, medicine was profiting by it. Although it has been affirmed that the science of chemistry did not originate with the Arabians, yet it can be stated, with a reasonable assurance of accuracy, that they were the first to introduce it in medicine. As a matter of fact this hunt for the philosopher's stone had so engrafted itself upon the minds of the people that alchemy spread its enticing wings over almost every branch of Arabian life, all hoping to find in it the "open sesame" to the world's secrets. Those who desired gold would obtain it by touching any ordinary metal with this wonderful stone, and likewise a commonplace pebble could be converted into a precious diamond. If you were in search of health, you had but to touch the miraculous object, and you found it. With it the doctor could cure all diseases. If great age were upon you, and you desired to emulate Goethe's Faustus without Mephisto's stipulation, drink but a few drops of the *elixir vitae*, and it is all done.

It was all like the story told us in our youth about the bag of gold at the end of the rainbow. No one would dispute that there

existed somewhere, "in art or nature," a philosopher's stone, but the question remained, How were they to get *in touch* with the end of the rainbow and prove it?

This search for the bag of gold, or its counterpart, the philosopher's stone, extended out of the confines of Arabia, and was taken up most enthusiastically by the Europeans in the Middle Ages. In a less degree it has extended down to modern days, and the notorious "gold brick" of the present age is no doubt one of its latest manifestations.

Greater than Rhazes was he whom the Arabians named the Prince of Physicians, Avicenna. He was born in Bokhara, Khorassan, A. D. 980, and, on account of his varied career, is one of the most interesting characters in medical history. From early childhood he displayed exceptional precocity, and it is said that before he was 10 he could repeat from memory the whole Koran, which recalls to mind a story told of the late Professor Harman of Dickinson. When he entered the college as a freshman he was told by an upper classman that it would be necessary for him to commit to memory the first 20 pages of Webster's Unabridged Dictionary before he would be permitted to mingle with the other students. What was the surprise when, early the next day, the young freshman rattled off every word of the 20 pages, and, for good measure, threw in the text as well!

At an early age Avicenna studied grammar, dialectics, astronomy and Euclid, and, having learned all that he thought the master knew, he gave him up for a merchant, who taught him arithmetic and the Indian numerical tables. He later left for Bagdad, where he studied philosophy and medicine.

His history as a student has been related by himself. He tells how, often when a difficult problem was to be mastered, and he persisted in trying to wrestle its secrets out of his wearied brain, he would resort to the use of wines to keep him from sleeping, and how, often being finally overcome by drowsiness, he would dream out the solution that he had in vain sought in his waking hours. He found the greatest difficulty in comprehending Aristotle, and, although he had read the work over something like forty times, its metaphysics remained to him a closed book. Finally, he found an old manuscript, which proved to be a key to the work, and the incomprehensible mass at once became as clear as crystal to him. This delighted him so much that he gave alms to the poor in thankfulness for the discovery.

At the early age of 16 he had already acquired great skill in medicine, and by his eighteenth birthday his reputation, as a result of a certain great cure, had become so widespread that he was invited to attend Mohammed, the Caliph of Khorassan, in his illness. Shortly after this he was called in to treat the Syrian Prince Kabus, whom the young physician found suffering from

a wound made by Cupid's dart. The truly prodigical character of Avicenna may be surmised from the fact that at 21, having been appointed physician to Prince Magd-Addaula, he became the author of an extensive work on the state of the arts and sciences, which he called "The Utility of Utilities," and which included theology, philology, mathematics, astronomy, physics and music.

However, his history is not a very tranquil one. He moved from principality to principality in search of a proper opening for his great and varied talents, and we finally find him at Hamadan, where he had gone with Prince Shems-Addaula. Here he entered the service of a high-born lady, but soon his presence was heard of by the Emir, who sent for the wandering doctor to attend him in a severe illness. Shortly afterwards he was created a vizier, but the Kurd and Turkish soldiers mutinied and demanded his death. The Emir consented to his banishment, but the physician hid for 40 days in a sheikh's house until the Emir, again being taken ill, once more sent for him, and soon restored the devizierized doctor to his former position.

While all these things were occurring he kept steadily at his work. His pupils, with whom he was justly popular, received their instruction from his "Canon" and "Sanatio" under what might be considered most delightful circumstances. The lessons being concluded, the master called in a band of singers and players, and the balance of the night was spent most joyfully in song and mirth.

But this happy state was interrupted soon by the death of his patron and friend, the Emir. As a result of a political upheaval he ceased to be vizier, and was compelled to find safety in the house of an apothecary, where he continued his writing. He communicated, however, with the Prefect of Ispaham, offering him his services. But the letter fell into the hands of the new Emir of Hamadan, who, thus having discovered the unlucky physician's whereabouts, had him incarcerated in a fortress.

In the meantime Ispaham and Hamadan were at war with each other, and upon the former's victory Avicenna was given his freedom. But he was not content to remain at Hamadan, and finally, under the disguise of a Sufte ascetic, made his escape from the city, and after a most perilous journey reached Ispaham, where he was received with many honors.

Like Sir Walter Raleigh and John Bunyan, he utilized his enforced incarceration to the best advantage, for he did considerable writing while in prison. Although he flirted with all branches of knowledge, his real mistress was medicine, and his five books of the "Canon" display an earnestness not always to be expected in a character such as belonged to Avicenna. This work, as well as its author, has been variously estimated by different critics, but the fact that it was the means of igniting a spark in medieval

Europe, which continued in variable form for five centuries, is ample proof of its usefulness.

Book First is a brief outline of the general principles of medicine. For the cure of disease he mentions a trinity of means—first, a regimen for restoring the *balance* of health; second, the use of medicines, and third, the use of massage.

Book Second is a sort of materia medica and therapeutics, in which he combines the principles of Dioscorides with those of Serapion, Mesne and others of his age. Opium was cold to the fourth degree, and was therefore to be used with caution where there was any likelihood of its causing death by the extinction of the vital heat. Rhubarb was also of a cold nature. Gold, silver and precious stones are included in his list of remedies as "blood purifiers."

Book Third is given over to the practice of medicine, and includes the anatomy of the parts treated.

In Book Fourth the subjects are crises and critical days, smallpox and measles, phlegmons, erysipelas, abscesses, cancer, gangrene, dislocations and fractures, and in his final and Fifth Book he gives a list of recipes used by the Arabian physicians.

His pathology is vague. Cold and moisture depressed the function of the brain, while heat and dryness exhilarated it. In diseases of the cerebrum he includes "inflammation of the head" and "phrenzy," and he explains melancholy as being a condition in which there exists a disturbance of the vital and aerial spirits, which two are supposed to regulate sensation. He set simple or continued fever down as "originating in an unhealthy alteration of the humors."

Sprengel gives Avicenna the credit of being the first to use the flexible catheter.

Perhaps no other famous physician has been the object of so many varied commentations as has Avicenna. Apparently he has been "all things to all men," judging from the high encomiums of some and the faint praise of others and the condemnation of still another class. The only general agreement seems to be that he was quite partial to "wine, woman and song."

Whatever may be said of his teachings, it is nevertheless true that for several centuries his "Canon" was one of the principal textbooks, not only in Arabia and its dependencies, but in Europe as well. Aside from his contributions to the medical art, his varied career alone makes him an unusual personage. The last years of his life were covered with all the honors a friendly prince and people could bestow. Toward the end he contracted an inflammation of the intestines, which was later followed by epilepsy. While accompanying the Caliph on a journey to Hamadan he was accidentally given an overdose of opium by an attendant, and shortly after reaching the city he died at the premature age of 58.

As has already been stated, the Arabians owed much of their instruction to the teaching of Jewish physicians, who were not only the means of helping to perpetuate the medical art in Egypt, Persia and others of the Arabian dependencies, but later, by their immigration into Italy, took a considerable part in carrying the torch of science into Northern Europe. At Cordova and other Spanish cities Jewish physicians were among the principal teachers, and the College of Salerno owed much to their influence.

Benjamin of Tudela, who in 1165 made his famous journey over all of the then known world, inscribed in his "Itinerary" a list of the Hebrew physicians he had met in his travels. They did not limit their practice among their own tribe, but had among their patients many Christians and Moors. Friend states that there was scarce a Christian court but what made use of their services. Charles the Great's physicians were Farragutbus and Bubabyliba Bengesta, two Jews, who, at his direction, wrote "Tacuin," or the "Tables of Health," and Zedekiah was the archiater, or court physician of Charles the Bold. On account of their knowledge of Arabic they were the chief physicians in Europe in the tenth and eleventh centuries, there being no translation of Hippocrates and Galen, and some of the Popes availed themselves of their medical skill. Several centuries before this they were to be found in many of the palaces of the Moorish and Spanish kings. One of the principal Jewish physicians of the tenth century was Ishak ben Soleiman, who lived between 830 and 940. He wrote several treatises, the most important one being on dietetics. He is said to have been the first to use senna.

Moses ben Maimon, or Maimonides, was born at Cordova in 1139. He was a distinguished theologian, philosopher, mathematician, astronomer and physician, and became Sultan Saladin's medical adviser.

When the great Averroes, who first called attention to the immunity produced by an attack of smallpox, was persecuted by King Al Mansur Yacub he found a home with his former pupil Maimonides, who not only gave him a refuge, but support as well. He is the author of numerous works, and his "Aphorisms" contain much of interest.

Avenzoar, supposed by some to have been a Jew, was born near Seville about 1113 and died 1196. He was one of the three greatest Arabian physicians, and his erudition obtained for him the title of "The Wise and Illustrious." He had the temerity to differ from Galen, and was therefore considered quite a bold man. His principal work was "Jaiser," and he had as a pupil the philosopher Averroes.

Avenzoar is said to have been the first to make a total extirpation of the uterus. He thought it would be possible to remove

stone in the bladder by the internal use of oil of dates. He also put forth the milk-cure idea for consumption.

He throws a rather interesting light on the grade occupied by the surgeons of his day. He would, perhaps, overlook a physician stooping to certain surgical work, but he could not see how any man of character could fall so low as to do an extraction of stone from the bladder. He was the first to put into active practice the nutritive enema. In describing a case of disease of the esophagus, in which the patient is unable to swallow food, he gives three methods of procedure: First, if possible, introduce a tin or silver tube down which the food can be poured into the stomach. Second, put the patient into a bath of milk; the pores of the skin will absorb the food principles. Third, force up into the intestinal canal an enema. It will be seen from this that Avenzoar recognized the importance of absorption, although it is declared that he believed that the nutritive factor of the enema would somehow be drawn up into the stomach. Friend notes that Oribasius also recommended nutritive enemata. In speaking of worms, he declares that a prominent symptom is often a cough, although he had never been able to personally verify this.

Among the cures he mentioned is a rather unique and interesting one for jaundice. He administers three barley-corns' weight of *bezoar*. This material is in the form of a stone, and he gives its history as follows: "That is the best which is found in the East, near the eyes of stags. Great stags in those countries eat serpents to make them strong, and before they have received any hurt from them run to the streams of water and go into it so far till it comes up to their heads. This custom they have from natural instinct, and there they continue without tasting the water (for, if they should drink it, they would die immediately) 'till their eyes begin to trickle this liquor, which there oozes out under the eyelids, thickens and coagulates, and continues running 'till it increases to the bigness of a chestnut or nut. When these stags find the force of the poison spent they come out of the water and return to their usual haunts; and this substance, by degrees, growing as hard as a stone, at last, by their frequent rubbing it, falls off. This is the most useful *bezoar* of all."

Odd as the above description may appear, it was nevertheless vouched for by other Arabians who had traveled extensively in Persia and China.

The present writer has himself observed some of the above characteristics in animals in the Philippines. The caraboa is never so happy as when he is in a stream up to his head; and it is a most rare occurrence to see him drinking the water. As with the animal mentioned by Avenzoar, "their eyes begin to trickle, this liquor, which there oozes out under the eyelids, thickens and coagulates." I have often seen this mass collected near the inner canthus, on the lid, but cannot say how much nearer its resemblance is to that of the stags already described.

Current Literature.

REVIEW IN SURGERY.

Under the Supervision of Alexius McGlannan, M.D., Baltimore.

CRANIAL SURGERY.

Trephining the skull for injury is one of the most ancient of surgical operations. In the earliest times the operation was performed for the relief of compound and depressed fractures only, but the study of cerebral localization gave an immense impetus to cranial surgery, and so we find now the indication for operation extending to embrace hemorrhage, tumors and other lesions inside the skull. Still later the study of the circulation in the brain and of intercranial pressure has given us definite knowledge concerning the effects of increased tension and methods for its relief.

Fracture of the Skull. By far the greatest number of operations on the skull are for the relief of conditions brought about by injury to the brain and its coverings. Charles Phelps (*Annals of Surgery*, April and May, 1909) is publishing an analytical and statistical review of 1000 cases of head injury. In this series he has observed 570 fractures of the base, 213 of the vault and 217 cases of injury without demonstrable fracture. The best part of the first paper is that dealing with the diagnosis of fracture of the skull. Phelps makes it a point to distinguish the symptoms of fracture from those of the intercranial injury that so often go with it.

The direct symptoms, especially in fracture of the vault, usually are easily made out by inspection and palpation, although once in a while an exploration becomes necessary. In the absence of symptoms of intercranial injury, a fracture of the vault becomes immaterial and no exploration should be made.

Hemorrhage is the most important symptom of basal fracture. It may be either intra or extra cranial, but is the one symptom upon which we may depend in the vast majority of cases. The blood may flow from the ear, the nose or the mouth, or it may collect as a hematoma in different parts of the head. Hemorrhage from the ear occurs most frequently (285 times in 405 of Phelps' cases), and is the most important of all. If it is clearly shown that the blood comes through the drum and has not flowed into the ear from an external wound, this sign may be considered pathognomonic of a petrous fracture involving the internal auditory canal.

Nasal hemorrhage becomes important only when a slow oozing from the nose begins about 24 hours after the injury. Profuse bleeding from the nose just after the injury is due so frequently to the local contusion that the symptom becomes valueless as a sign of fracture. The same is true of subconjunctival hemorrhage, coming on several hours after the injury, it means a fracture of some part of the wall of the orbit.

Nasal or oral hemorrhage, in the absence of local lesions, and when there is no history of injury to the face, suggests fracture through the anterior or middle fossa.

Hematemesis following head injury is a possible result of fracture into the pharynx.

Subcutaneous hematoma is most important when it is found in the mastoid region. The examination must exclude blood that has gravitated from a temporal or temporo-parietal hematoma. With this possibility excluded, a mastoid hematoma is a certain indication of a fracture of the base of the skull. When ecchymosis is a primary symptom, and especially if the collection of blood has extended into the neck, mastoid hematoma indicates a fracture traversing an inferior occipital fossa. Ecchymosis appearing in this region on the second to the sixth day is probably due to petrous fracture extending into the mastoid process.

In addition to hemorrhage, Phelps notes as symptoms of basal fracture serous discharge, extrusion of brain tissue, implication of cranial nerves, localized pain. The last of these four may become quite important in the absence of other signs of fracture. It may be the only direct symptom of a fracture in the occipital fossa, and is then situated in the occipital region or over the mastoid process.

Treatment of Fracture of the Skull. The importance of these fractures comes from the secondary effects of their existence. The bone fragments are not likely to be widely separated, unless the fracture is comminuted or compound, and firm union occurs rapidly. Depression of fragments causes pressure on the brain, and hemorrhage is important for the same reason.

Fracture of the vault requires no treatment unless there is a distinct open fissure. Then the skull should be trephined, because comminution or depression of the inner table is very probable.

The patient should be put at rest, given a sedative, if the headache is severe, and the bowels should be moved by salines.

Depressed fragments always require elevation. The fragments of a comminuted fracture should be elevated if they are depressed, and only pieces of bone without good dural or periosteal attachment should be removed.

Fractures of the base of the skull usually communicate with some of the openings of the head, in this way opening a route for infection of the meninges. Crowe (*Johns Hopkins Bulletin,* 1906) has shown that urotropin occurs in the cerebro-spinal fluid after its ingestion by the mouth. This drug, therefore, should be given in all cases of basal fracture.

As a further preventive of infection, the nose, mouth and ears may be disinfected. Great care must be exercised here. It is probably best to simply wipe out the cavities with sterile swabs wet with a mild antiseptic solution.

Operation in fracture of the base is done for the relief of tension, occasionally in the hope of controlling hemorrhage. In the great majority of cases the fracture involves the middle fossa, and therefore Cushing ("Keen's Surgery," vol. iii, p. 89) recommends the intermusculo-temporal opening of the skull when operating on these patients. In cases where the signs point to an occipital fracture, the suboccipital opening should be made.

Hyperalgesia and Hyperesthesia after injury to the skull. Vorschutz (*Deutsch. Zeit. f. Chirurg.* lxxxviii) publishes a valu-

able article on this subject, showing the frequent occurrence of hyperalgesic and hyperesthetic zones in various parts of the head and neck after injury to the skull or meninges. The work is really an extension of Head's investigations on the relation of superficial hyperesthetic areas to visceral disease. The fact that such areas occur after head injuries is of great practical importance, especially in medico-legal cases. The recognition of hyperalgesia will prevent our mistaking a true sufferer from a malingerer, but the converse is not positive, because these zones are not constant occurrences.

Concussion, Contusion and Compression. The pathological and clinical relation of these conditions is so close that they are usually considered together. Whether this relation has an actual existence is a subject of controversy. Pathologists and clinicians are divided into two groups, those following von Bergmann, who taught that concussion could exist without contusion, and those who believe with Kocher, that in all cases of concussion there exist minute contusions scattered throughout the brain. If we follow the latter teaching, then these conditions become a sequence of changes increasing in severity as we pass from concussion to contusion and into the state of compression of the brain. The sequence of increasing severity of symptoms is often seen in the clinical course of a patient suffering from a head injury.

Concussion. The essential symptom of concussion is a loss of consciousness that may be momentary, or longer. This may be followed by simple lethargy or a condition resembling the sleep of drunkenness. With the restoration of consciousness there is usually headache, vertigo, nausea and other general signs of cerebral disturbance. There is confusion or loss of memory concerning events incident to the injury. In many cases the patient becomes irritable, and even violent.

Contusion. Like compression, this is always the result of injury. The degree of laceration varies in wide limits, from a minute extravisation to an extensive laceration. Frequently the contusion is associated with a bursting fracture of the skull. The symptoms of contusion are practically an intensification of those of concussion. The period of unconsciousness is usually longer and signs of compression almost always appear. When they do occur, lumbar puncture will as a rule draw off bloody fluid.

Compression. In addition to injury, intercranial tumors, abscess, etc., give rise to compression of the brain. As a rule the latter causes give a less acute compression than the former.

Compression the result of injury may be due to hemorrhage or to cerebral edema from contusions. This edema (serous amicrobic meningitis) is a frequent cause of compression following injury to the head which does not produce fracture of the skull.

The danger point in compression is the medulla; a very little pressure here will cause rapidly fatal anemia of the vital centers, while a much greater local pressure in the frontal or temporal region may be practically without symptoms.

Kocher, Cushing, Cannon and others have shown experimentally that there is provided a marvelous protection to the medulla by

means of the arrangement of cerebral membranes, and the circulation of the cerebrospinal fluid, as well as the blood in the skull.

The blood-vascular symptoms of compression are evidences of the local and general variations in blood pressure, progressively brought forth to protect the medulla, or are due to the failure of this compensation.

Kocher ("Nothnagel's Specielle Path. und Therapie," 1901) has divided the effects of increased tension into four stages, representing progressive increase of tension. Clinically, it is common to have the symptoms bridge these stages. Occasionally the process is arrested at one or the other stage, or it may pass directly on to the last almost immediately, depending on the severity of the lesion. The stages of general increased tension, as described by Kocher, are:

1. The stage of compensation in which the escape of cerebrospinal fluid and the narrowing of the veins makes the disturbance slight and without severe symptoms.

2. Failing local compensation. Here the pressure is sufficient to lessen the amount of blood flowing through a considerable part of the capillary field, but without serious alteration in the nutrition of the vital centers.

3. General circulatory involvement. Here the tension is sufficient to involve the medulla and call forth the general vasomotor regulation for compensatory action.

4. Failing general compensation.

The symptoms of compression vary with the stages and progress in a like manner. Serious cases pass rapidly on to the late stages. At first the symptoms may be mild and insignificant. Headache is practically always present, and with it there may be some mental dulness. Later, in progressive cases, or early in the more serious injuries, in addition to pronounced headache we note vertigo, restlessness, excitement or delirium. Now certain objective symptoms become apparent. Of these the rise in blood pressure and the state of the eye grounds are most important. The ophthalmoscope reveals dilation of the veins, which are also tortuous, and often a beginning edema of the nerve. The external veins of the head, especially the venules of the eyelids, are dilated and the face is usually cyanosed.

In the third stage there is a marked rise in blood pressure; the respiration approaches the Cheyne-Stokes type; the pulse is slowed to 40-50 per minute and is bounding in character, of the vagal quality. Examination of the retina shows choked disk. As the fourth stage is approached there is a gradual failure of the compensatory action of the general circulation, the blood pressure falls, the pulse becomes rapid, the heart's action and the respiratory movements become irregular and the patient passes into coma and dies from respiratory paralysis.

Of the objective symptoms, the condition of the eye grounds is probably the most important. The regularity of this symptom has caused a great deal of discussion. Much of this, I feel sure, is due to misunderstanding by the ophthalmologists of what the condition of the retina is in early compression. Cushing ("Keen's

Surgery," Vol. iv, p. 161) points out that we must not expect to find a full-blown choked disk, but must look for slight edema, with distension and tortuosity of the veins. Frazier (*Journal Amer. Med. Asso.*, June 5, 1909) quotes de Schweinitz as to the rarity of papilledema in head injury, and doubts its value in diagnosis. Probably he is one of the observers who has overlooked Cushing's advice quoted above.

The effect on the optic nerve of mechanical increase of intercranial pressure has been studied experimentally by Cushing and Bordley (*Journal Amer. Med. Asso.*, January 20, 1909). They show how an increasing pressure persistently produced brings out greater venous dilation and edema, which finally causes structural change. The formation of new connective tissue is characteristic of chronic passive congestion everywhere. From the results of these experiments it seems that choked disk is a better name for the condition than optic neuritis, papillitis, etc., names indicating an inflammatory origin of the lesion.

Treatment. Seeking the cure of the results of cerebral trauma, we disregard the terms concussion and contusion and their significance, considering only the symptoms as they indicate degrees of cerebral compression. As long as the symptoms indicate the first, or early second stage, of compression, when the local compensation seems able to take care of the lesion, non-operative measures are indicated. The patient should be put to bed immediately with an ice cap on the head. Often it is well to shave off the hair. Atopin in doses of 1/200 gr. is said to be valuable. If the patient is shocked, salt solution by the rectum or subcutaneously, with bandaging of the extremities and pressure over the abdomen, should be used.

If the symptoms persist for more than a few hours, or seem to be passing on to those of a more severe compression, a lumbar puncture will give valuable aid. An extravisation of blood will be indicated by bloody fluid from the puncture, while clear fluid shows that the pressure is due to edema. Persistance of pressure symptoms after lumber puncture is an indication for the decompression operation.

Whenever the initial symptoms have been severe or persistent, the patient must be kept in bed from 10 to 14 days. An ice bag should be used continuously, the bowels moved daily, and the diet restricted.

When the signs of compression indicate the third stage, then the decompression operation is indicated. By means of this procedure we are able to relieve the failing compensation, and when the intermusculo-temporal route, devised by Cushing is used, to control the cause in many cases. In reporting a case of subdural hemorrhage (*Military Surgeon*, December, 1908) I described the method of performing this operation, giving references to the original papers.

Intercranial Hemorrhage of the Newborn. The recognition of this condition is of the utmost importance, because operation at the proper time will save the life and intellect of these children, as well as prevent development of various paralyses. Hemorrhage

is usually subdural, very rarely in the brain itself, or in the ventricles.

The clinical picture is quite definite and varies as the seat of the hemorrhage is pretentorial or subtentorial.

The symptoms are those of acute compression, and, as is to be expected, are much more serious in the subtentorial hemorrhages.

Pretentorial hemorrhage is usually unilateral, the clot may be quite large, with relatively few signs of general compression. The first symptom noticed is the extreme restlessness of the child, usually beginning about 48 hours after birth. When this restlessness is accompanied by ceaseless screaming, without apparent cause, it is practically pathognomonic. Later the general symptoms of increased intercranial tension appear. If unrelieved death follows from anemia of the medulla.

Subtentorial hemorrhage is much more serious than the foregoing. The child is usually born asphyxiated, but for the first few hours seems healthy and is quiet. Very soon, however, symptoms of the fourth stage of compression appear and death follows in from 36 to 48 hours.

Whenever these cases are seen early enough a decompression operation should be done, either temporal or occipital, according to the location of the clot.

Seitz (*Munch. Klin. Woch.*, March 24, 1908) is quoted by Frazier (*Progressive Medicine*, March, 1909) on this subject. His statistics are based on 23 cases, 18 of which were fatal, but only one of these had been operated on. The five recoveries followed operation, proving, therefore, that surgery offers the only chance for cure.

Tumors. Almost every known variety of tumor has been found in the brain. The infectious granulomata are by far the most commonly recorded type (Cushing. Keen's Surgery).

Tuberculoma is most common in the cerebellum, and especially frequent in children. They may be solitary, but are usually multiple and vary greatly in size.

Syphiloma is more common in adults, is often multiple and may reach a great size.

The cerebral granulomata are particularly fibrous; the tuberculoma usually has a firm fibrous capsule. while the gumma is very dense and resistant to antiluetic medicines. On account of this fibrosis both forms require excision for cure. The gumma is usually superficial and accessible. The tuberculoma may be deep and may lead to tuberculous meningitis.

Endothelioma (probably fibro-sarcoma). These tumors are relatively benign growths that spring from the meninges and produce symptoms by pressure on, rather than by infiltration of the brain itself. Their most common seat is the cerebello-pontine recess.

Glioma. These are soft infiltrating tumors originating from the neuroglia. They become very large and may undergo central cystic degeneration. Because of their great vascularity hemorrhage is frequent in the course of these tumors and may be the first

symptom of their pressure. An apoplexy in a young individual without arteriosclerosis should lead to a search for a glioma.

Cysts are very important tumors of the brain. Certain cysts are the results of injury; others are due to parasites, and occasionally they come from degeneration of a glioma. Porencephalic cysts are most likely the result of hemorrhage. These cysts cause irritative or paralytic symptoms, while the traumatic and parasitic varieties cause pressure symptoms.

Carcinoma is metastatic, usually in the bones of the skull, and invades the brain in its growth.

Sarcoma may be primary in the cranial bones, or may be metastatic.

Teratoma are also found, their most common situation being the pituitary body and the mid-basal region.

The signs of brain tumor are both general and localized. Of the former there are four cardinal symptoms—headache, nausea, vomiting and choked disk. These are pressure symptoms, and the absence of any of the circulatory-respiratory signs so prominent in acute compression is due to the gradual increase of pressure in cases of tumor and the action of the compensatory apparatus.

Any or all of these cardinal symptoms may be absent during the entire course of a brain tumor. As a rule, however, one or more of them is present at some time, but their absence is not proof that no tumor is present. The headache is the most constant symptom, in many cases the only one until late in the disease. Infiltrating tumors and abscesses located in silent areas are very likely to give no general symptoms.

These four cardinal symptoms may be present without any localizing signs, and bear no relation to the size, situation or nature of the tumor.

Headache is usually diffuse and dull, and may occur only in the morning hours. The situation varies and is of no localizing value unless the pain is constantly referred to one spot which is found to be tender. Under such circumstances it is probable that the tumor is pressing against the skull at this particular point.

Vomiting is an irregular symptom. It may occur at intervals, with or without nausea and irrespective of food. It is often projectile and may be limited to the morning. Position frequently is a controlling factor.

Choked disk is the most reliable symptom. Nephritis is the only disease in which this condition and the other symptoms are likely to lead to confusion. A unilateral choke is a probable indication of a tumor situated on the same side of the brain near the orbit, but variation in the degree of pressure shown in either eye cannot be considered of value in localization.

Localizing symptoms when present indicate the position of the tumor in the brain. The interpretation of these symptoms depends on the study of cerebral localization. This subject is so extensive that we shall take it up in a special review.

Hydrocephalus. The many methods devised for the surgical treatment of this condition have not yet made its cure a surgical triumph. Meningitis due to ascending infection through the drainage channels has been the end result in all attempts to drain

the ventricles to the surface of the body. Of the many newer methods, that of Payr (*Archiv. f. Klin. Chir.*, lxxxvii) seems most likely to give good results. He drains the lateral ventricle into the superior longitudinal sinus by means of the transplantation of a piece of blood vessel, making an anastamosis at one end with the sinus, and at the other with the lining of the ventricle.

Epilepsy. Nearly 20 years ago Kocher published his opinion that epilepsy is due to increased intercranial tension and that the proper treatment is by decompressive operation. Since that time many controversies have been waged on the subject, but now we find the matter is about in the state he left it after Frankel's opposition in 1905. The establishment of a permanent opening in the skull seems to be the operation that gives greatest and most persistent relief to the greatest number of epileptics. If we add Krause's excision of the cortical center, the involvement of which is indicated by the symptoms, we have probably reached the limit of operation justified by our present knowledge of this disease.

Plastic repair of bone defects of the skull has attracted much attention. The value of such operations in epilepsy is doubtful; certainly such a procedure antagonizes Kocher's conclusions. Of the various methods devised, that of Dudley P. Allen (*Boston Med. and Surg. Jour.*, April 12, 1906) seems most practicable. Briefly the method consists in transplanting into the defect an area of periosteum with an attached thin slice of bone from the outer table of the skull. The growth of the graft is proved by histological studies of a series of experiments on dogs.

Abscess. The etiology of brain abscesses may be trauma, pyemia, or extension from ear suppuration. The route of extension or infection may be lymphatic or circulatory.

The symptoms are often indefinite, and many cases go unrecognized until the terminal stage is reached, or even post-mortem. The acute abscess may go unrecognized and the resulting chronic abscess may persist for many years without general symptoms. Such a chronic abscess of the frontal lobe may give rise to mental symptoms and the patient be treated for years in an asylum as a sufferer from a psychosis. The general symptoms are usually divided into four stages. (a) Initial stage, where the signs are those of acute septic infection. (b) Latent; these initial symptoms subside, but do not entirely disappear. There is headache and nausea, possibly chilliness and fever. (c) Manifest. The headache becomes severe and there is vomiting. Usually there is leucocytosis; the temperature becomes subnormal; drowsiness, irritability and slowing of the pulse are present. The bone over the seat of the abscess is usually tender. (d) Terminal. The temperature becomes high and the patient dies with symptoms of the last stage of compression.

Localization of an abscess is a most difficult procedure. Probably the only rule to follow is to operate at the seat of the supposed external cause. The diagnosis is difficult, especially in the cases following ear disease. In operating, if an extensive serous meningitis is discovered, it is wise to wait until the effects of the decompression are observed before going into the brain tissue in search for an abscess.

REVIEW IN GYNECOLOGY AND OBSTETRICS.

Under the Supervision of A. Samuels, M.D., Baltimore.

THE CRUSADE AGAINST CANCER OF THE UTERUS.

The object of this paper is to review the literature of the work that has been done to assure an early diagnosis of uterine cancer. In reviewing the literature as much repetition as possible will be avoided, but a certain amount must necessarily occur, so that the views of the different observers may not be destroyed.

The statistics of today show that cancer of the uterus supplies about 20 per cent. of all gynecological patients; that out of 100 patients with cancer applying for treatment only 25 per cent. are suitable for operation. Taking the five years after operation as the time before which a cure can be said to have been attained, hysterectomy will lead to a definite cure in about one-fifth of the cases in which it is employed. Such a result, taken in conjunction with the fact that a large number of patients present themselves for treatment too late for the possibility of obtaining a radical cure, leads to the conviction that if only the patients could be secured early enough a great many valuable lives could be saved. The reasons why patients seek advice too late for the possibility of operation are many. The chief reason is the belief that irregular hemorrhages after or about the time of menopause are normal events to "change of life." This belief is held not only by a large number of women, but, unfortunately, by a large number of the medical practitioners. I have frequently heard a mother tell her daughter that the menopause would come with long and irregular bleeding, as this was the manner in which she and her mother before her had passed the critical stage. In carefully looking into the history of the grandmother in one instance it was found that she had died of what was called "hemorrhage from the womb" at the age of 60 years—in all probability a cancer of the uterus.

The only good explanation of these erroneous ideas is a lack of education, and the responsible parties for this lack of education are the practitioners themselves. It is not with the laity to diagnose disease, but there is no good excuse why the general practitioner should not be sufficiently educated to know that irregularities of the menstrual period at or about the menopause are signs and symptoms not to be overlooked and treated in an indifferent way or to be looked upon as natural, but symptoms that demand a thorough investigation. I have heard practitioners remark after a diagnosis of cancer of the uterus had been made in a patient advanced far beyond the limits where operation could be of any avail: "I have known her to have a cancer for a long time, but was afraid to tell her, being fearful of the excitement that would follow." How much better it would have been (if his statement were true) to have informed her in the early stages of the disease and urged an operation that may have saved her life!

In Germany, Winter of Königsberg ("Ueber die Fruhdiagnose des Uterus Krebses," *Berl. Klin. Wochenschrift,* 1891, Vol. XXVIII; *Zentral für Gyn.,* 1904, No. 14) in three separate papers waged a most vigorous crusade against cancer of the uterus. In December, 1902, he issued to every doctor in East Prussia a pamphlet urging them to make a thorough and painstaking examination in all suspicious cases. He also sent leaflets to midwives, pointing out the symptoms of uterine cancer and urging them to send to their physicians all patients who presented any such symptoms. In addition to this, he published in the most popular newspaper "A Word of Advice to Womankind," in which the significance of irregular hemorrhage, etc., was given, and all patients having any suspicious symptoms were urged to go to their physicians for advice and to act upon the advice given without any possible delay. To operating gynecologists he wrote asking them to keep a register of their cases. The result of all this was that by the end of the year he had collected records of 84 cases. These he analyzed and found the results very encouraging. From this appeal more medical men had responded, and they showed a disposition to be more careful in the local examination of their patients. In doubtful cases a microscopic examination was made of portions of the cervix and of curettings of the uterus. With regard to cases coming under midwives he also found that his appeal had proved beneficial in that the percentage of cases treated by midwives was distinctly lower than in previous years. The test of the effect of his appeal to the public he based on two points, viz.:

(1) The time which elapsed before the patient's first knowledge of cancerous symptoms and her seeking medical advice.

(2) The time which elapsed from the moment advice was given to the date when it was acted upon.

On both these points he found a very marked improvement. The influence of the appeal on the percentage of cases suitable for operation was found to be 74 per cent. in 1903, as compared with 62 per cent. in 1902. This is open to criticism. While it may be assumed that good results would be obtained from such liberal advertising, yet 12 per cent. increase seems a rather large one.

In 1899 Duhrssen (*Deutsche Med. Wochen.,* 1899; *Deutsche Arztzeitung,* 1899; *Aetzlicher Ratgeber,* 1900) wrote a paper on the "Prevention of Cancer," which recommended the publication of a popular brochure dealing with the leading symptoms, etc. In 1900 he published such a brochure, and this was subsequently issued as a monograph. In 1892 he published in the "Hygienic Calendar for the Home" a paper entitled "The Prevention and Cure of Abdominal Cancer in Women."

In Austria the Austrian Cancer Committee published and distributed to all midwives a paper, "Principiis Obst" (*Wien. Klin. Wochen.,* 1905, A. Fraenkel). In this stress is laid on the absolute importance of an early diagnosis in all cases of malignant disease. As long as the disease is local it is curable by means of

a radical operation. Doctors are said to be more to blame for not insisting on a thorough examination of patients presenting suspicious symptoms, and are urged to dismiss from their minds the idea that the disease is incurable.

Lewers ("Cancer of the Uterus," 1902) in a preliminary note to his book suggests that something of a practical nature might be done in making women familiar with the early symptoms of cancer of the uterus. He records bleeding as the first symptom in a large majority of cases, and considers that if women generally understood that the occurrence of bleeding between the menstrual period or after the menopause might be due to a cancerous growth in the womb a considerable proportion of them would lose no time in seeking competent advice. He asks the question, "In what way can the better education of women on this subject be brought about?" In answer to this he suggests that a cancer commission might issue a leaflet containing the essential facts that are desirable for women to know. The distribution of such leaflets might then be undertaken by the medical profession. Such a method, though far from the ideal, would cause a great commotion in a large number of nervous women, but the undoubted good that would result in saving thousands of women from an untimely death from cancer of the uteus would counterbalance any minor nervous disturbances from which a few might suffer.

Wilson attributes the failure of an early diagnosis of cancer of the uterus to a great extent to lack of knowledge on the part of the medical practitioner and to a lesser extent with the patients themselves, who, from modesty, poverty and the fact that midwives and nurses persuade them that all the symptoms are due to "change of life," content themselves with this belief, and do not seek competent medical advice. This prevailing ignorance must be swept away, and the significance of such symptoms must be thoroughly grasped and then impressed through the medium of nurses and midwives on women in general. It behooves us therefore to make a close study of the earlier symptoms of the disease, and in every woman who presents any suspicious symptoms to insist upon an immediate and thorough exploration, and the results of our examination must be conclusive. Where any doubt exists a microscopic examination of the tissues should be made.

W. D. Haggard (*American Journal of Obstetrics,* December, 1897) lays great stress on the importance of women understanding all about the menopause. He suggests that this may be accomplished by every medical man teaching all his female patients about the normal and the abnormal things that may occur at such a time. He concludes by saying the profession must see to the following points:

(1) The education of women as to the danger of cancer at the menopause.

(2) The early interpretation of suspicious symptoms.

(3) Surgical interference.

Maier of Boston (*New York Medical Journal,* April, 1903)

considers two important points to be reckoned with in bringing patients earlier for advice, viz.:

(1) The physician.
(2) The patient.

1. With regard to the physician, he urges great care on their part, and points how necessary it is for them to efface the prevailing dislike of patients to seek advice and to undergo operation.

2. Women must be taught the symptoms and urged not to regard irregularities and profuse hemorrhages as normal accompaniments of the menopause. He points out the coincidence that those who suffer from "cancerophobia" are generally those who are exempt from the disease, due to the fact that such patients readily consult their physicians, and are thus examined and irregularities are treated. Craig (*New York Medical Journal,* July 8, 1905; "Trained Nurse, etc." New York, 1903), in a paper entitled "The Early Detection of Uterine Cancer," urged, first of all, the necessity or repairing all surgical lacerations. He believes that when repaired the cervix reverted to the same liability to carcinoma which obtains in a normal nulliparous cervix. He also published a paper on the subject in the "Trained Nurse," setting forth the importance of leucorrhea, or, rather, increase in the leucorrhea, that women habitually have as the first symptom. He urges the doctor to meet all symptoms with suspicion until they disappear. He further urges investigation of any variation from the following ways in which the menopause usually occurs:

(1) Suddenly.
(2) By gradual lengthening of the intervals.
(3) By a gradual diminution in the amount.

To denote a lesion which must be discovered F. F. Simpson points out that out of every 28 women who pass the age of 30 one will be the victim of cancer of the uterus, and advises a quarterly examination of all women who have passed this age as a precautionary method against cancer. Few women would fail to submit to this examination if the essential facts about uterine cancer were made known to them by the medical men. He recognizes the risk of giving too much publicity to medical matters, for the truth is easily distorted. "We may not commit the greater error of undue conservatism."

Sampson (*Journal of the American Medical Association,* Chicago, 1905, Vol. XLIV) expresses the opinion that the early diagnosis of cancer of the uterus can be best obtained by the proper education of the medical profession, who, in turn, should educate the public. Physicians must be taught the great importance of making a diagnosis and the fact that a local examination is quite essential for this.

At a meeting of the International Congress of Arts and Sciences held at St. Louis on September 24, 1904, the gynecological section passed a resolution requesting the American Medical Association to suggest means for increasing the percentage of cures of uterine cancer. The committee was formed and submitted a report to the House of Delegates at the Portland meeting of the association.

The report was adopted and the matter referred to a committee. The committee then suggested that a letter should be sent the individual members of each county medical society, asking them to give the report of the committee (which was sent under separate cover) their most careful consideration. The report was a brief but true and accurate recital of the facts regarding cancer in general and cancer of the uterus in particular.

A commission has been formed in Sweden to investigate the question of cancer. The Swedish Medical Society brought the question of cancer of the uterus before the public by means of the circulation of pamphlets, viz.: (a) "The Diagnosis and Examination of Cancer of the Uterus," (b) "A Few Words of Advice to Midwives."

Dr. H. J. Boldt, in an oration on surgery delivered at the Medical Society of the Missouri Valley, St. Joseph, Mo., March 18, 1909 (*Medical Herald,* April, 1909), discussing the symptoms of cancer of the uterus, states that it is deplorable that those symptoms of putrescent leucorrhea, bleeding and cachexia are still foremost in the minds of most general practitioners. In nearly every case when these symptoms are present the doom of the patient is sealed, while the early symptoms, such as spotting or an increased flow of blood at the menstrual period, or perhaps a slight atypical bleeding at or near the menopause, are overlooked or misinterpreted because the medical practitioner does not take the trouble to make an examination to find out the cause of these pelvic symptoms. He classifies the symptoms in the order of their appearance in cancer of the uterus, the earliest of which is an increased vaginal discharge, bleeding, and pain last of all. He urges that it is the duty of every physician who has a patient having any one of symptoms of cancer of the uterus to make a positive diagnosis. The physician must fully realize that cancer in the beginning is a local disease, and that it usually can be cured if properly treated at that time.

Professor Pastalozza, Rome (*L'Genecologie Moderna,* October, 1908), urges an active propaganda throughout Italy in order to familiarize the people with the insidious onset of cancer of the uterus, the all-important necessity of an early diagnosis and an early radical abdominal hysterectomy according to the methods of Wertheim and Freund. The people must be taught that only initial cancer of the cervix is curable, and that in all advanced cancers even the radical operation is only palliative.

Hence we may conclude by saying that the most essential factor for successful treatment of cancer of the uterus is an *early diagnosis.* This may be accomplished best by the medical practitioners making careful and painstaking examination of their patients. In doubtful cases a microscopic examination of the tissues should be made. They should instruct their patients as to the manner in which the menopause occurs, viz.—suddenly, by gradual lengthening of the intervals, or by a gradual diminution in the amount—and they should be cautioned to seek advice without delay if irregularities from the foregoing occur.

2003 McCulloh street.

REVIEW IN MEDICINE.

Under the Supervision of H. M. Cohen, M.D., Baltimore.

PELLAGRA.

Pellagra has only recently attracted unusual attention in America, although in certain parts of Europe it has been prevalent since 1755. The disease was first recognized in this country in Georgia, in 1902, since which time it has been seen frequently in other Southern States, and Thayer reports two cases of the disease as having occurred recently in Maryland (*Johns Hopkins Hospital Bulletin,* July, 1909).

The etiology of pellagra is as yet unsettled (Lavinder, *New York Medical Journal,* July 10, 1909), although it has been attributed to the use of a certain kind of maize, or Indian corn, as a food. How the disease is influenced by the maize has not been discovered, nor has the corn theory received universal acceptance.

Thayer divides the symptoms of pellagra into three divisions, viz.: Those belonging to the *alimentary tract,* to the *skin,* and to the *nervous and mental systems.*

To the first belong nausea, dyspepsia, possibly vomiting, and *obstinate* diarrhea, usually in the morning. There may be a severe stomatitis. The mucous membrane of the mouth is brilliantly red and possibly ulcerated. Salivation may be present.

Cutaneously, pellagra has well-marked manifestations. It acquired its name (rough skin) from these characteristics. The skin of the backs of the hands or the dorsa of the feet, after first passing through a sunburn stage, appears dry, rough and scaly, and later exfoliates in the form of flakes of fine branlike particles. Cracks and fissures finally develope. In the advanced stage of the disease shallow bullæ, filled with serum, pus or blood, are present. Although the backs of the hands and feet are the usual sites of the cutaneous manifestations, the malar region, crossing the nasal bridge, and the neck may also be involved.

The *nervous* manifestations are usually referable to the spinal cord. In severe cases the deep reflexes are generally increased. There may also be disturbances of sensation and the sphincters may be paralyzed.

Mentally, pellagra is marked by confusion, weakness of judgment and will, anxiety, disorientation and melancholia. Thayer calls attention to a peculiar "dull and serious" facial expression. The late stage developes delusions and mania. Mutism is frequent, and hallucinations of sight and hearing may be present. Dementia is common in chronic or recurrent cases.

In the *acute typhoidal* form the disease terminates usually at the end of a few weeks fatally, after running a course of active delirium, fever and *uncontrollable diarrhea.*

The *milder chronic* or *recurrent* form may extend over a period of 25 years.

As regards treatment, arsenic in one of its forms is generally

accepted as giving the best results. Atoxyl given hypodermatically, or Fowler's solution combined with bitter tonics, are universally recommended in pellagra. Thayer, in one of his cases, obtained benefit from desiccated thyroids, basing his treatment on the possibility of the presence of hypothyroidism. Proper hygiene and diet, along with a general symptomatic treatment, sums up our present knowledge.

Concerning the theory as to the *rôle* maize, or Indian corn, plays in the production of pellagra, it may be well to note that in the Philippines, where maize is practically a universal food, the disease has never been observed. If the disease were really caused in this manner, the Filipinos would hardly be exempt from attack.

REVIEW IN LARYNGOLOGY AND OTOLOGY.

Under the Supervision of Richard H. Johnston, M.D., Baltimore.

TRACHEOTOMY.

We are disposed to defer tracheotomy (C. Jackson, *The Laryngoscope,* April, 1909) until dyspnoea and cyanosis are extreme. Under local anesthesia and at the proper time, the operation should be free from dangers of shock, hemorrhage or consecutive bronchopneumonia. There should be no more mortality from the operation *per se* than from the opening of superficial abscesses by an incision of equal length.

Technique: First—Preservation of cough reflex by the omission of chloroform, ether, morphine, codeine or other sedative and the avoidance of marked cyanosis by early operation. Second—Deliberate work, careful dissection exactly in the middle line until the windpipe is laid bare and absolute hemostasis before it is opened are desirable. Third—Careful after-treatment (good ventilation, uniform temperature, moist atmosphere, frequent dressings of the wound, preservation of the patient's vitality by all temporary and permanent means) reduces mortality. It is imperative that the case shall be in the hands of a nurse trained in tracheal work. The secretions and discharges must be absorbed and removed by very frequent dressings. Gauze wrung out of mercuric chloride, 1 to 10,000, is used in three pieces, (a) to pack around the canula, (b) a bibb piece on the surface surrounding the stem of the canula under the tape-holders, (c) a filter piece to lay over the entire front of the neck. This latter piece should be changed as often as soiled, even if every 10 minutes. No bandage is needed. Fourth—Asepsis. Fifth—Trendelenburg-Rose position at the moment the trachea is opened. We should aid cough all we can by the influence of gravity. Sixth—The canula must be of proper size and length. Nearly all the canulæ in the shops are worthless, being both too short and of too short radius. Most of them will not reach the trachea after the neck has swelled in the reaction. The long, tracheal canulæ devised by me to reach to the bifurcation of the trachea are

needed. For local anesthesia the author uses one grain of cocaine hydrochlorate, one drop of carbolic acid to the ounce of water (sterile), allowing the solution to stand long enough for chemical sterilization to take place.

ERUPTIVE MANIFESTATIONS IN THE NOSE AND THROAT OF CHILDREN FROM A PEDIATRIC STANDPOINT.

Herpetic eruptions (L. Fischer, *The Laryngoscope,* March, 1909) appearing on the tonsils have been mistaken for diphtheria. The sudden onset of the disease, accompanied by a very high fever and the absence of swollen cervical glands, in addition to the history of the most probable cause, are important points in differentiating herpetic tonsilitis from acute lacunar diphtheria occasionally met with. In early infancy the most common non-febrile eruption is seen at the roof of the mouth on the tonsil and the hamular processes of the palate bone. This is usually caused by traumatism by the mother or the nurse desiring to be too clean and causing an abrasion by rubbing the sensitive mucous membrane. This condition of Bednar's aphthae is quite common. Broadly speaking, in children we meet, as a rule, with two distinct classes of eruptions. They are, first, the acute eruptions associated with fever; second, eruptive manifestations of a non-febrile character, the latter type being the chronic type of which syphilis is the best example. Ulcero-membranous angina, known as Vincent's angina, is occasionally seen in children associated with stomatitis. Urticaria may appear preceding or following the skin eruption. In acute cases the mucous membrane of the oropharyngeal cavity, nose and larynx may be involved in part or in whole. Typical swelling is seen, with tense shining elevations with varying shades of red, with a lighter hue at the summit of the elevation. Hoarseness and dyspnoea may be sudden symptoms. Other symptoms are apparently inflamed condition of the parts, with separate areas of local ischemia, situated at the summit of the reddened patches; the migratory property of the wheals, with their fugacious character and acute edema limited to the epiglottis.

Giant Urticaria.—Similar lesions may appear in the mouth. The tongue may be enormously swollen. There is intense burning thirst, and at times dyspnoea.

Angioneurotic Edema.—This condition is closely allied to urticaria. It is characterized by sudden painless swelling of parts involved. The lips are commonly affected and stand out like stiff, fleshy masses.

Scleroderma sometimes attacks the mouth. It may lead to atrophy of the mucous membrane, and to its adhesion to the submucous surfaces. It may also cause falling out of the teeth.

Perlèche is a parasitic affection of the lips resembling mucous patches, for which it is frequently mistaken. It develops at the commissure of the mouth. It has been chiefly studied in France. It is contagious. When asthmatic attacks are noted while an eruption exists on the body, the probable condition of urticarial asthma should be remembered.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

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Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

SOME NEW METHODS FOR THE DIAGNOSIS OF TYPHOID FEVER.

Although the examination of the blood for typhoid fever by means of the agglutinative, or Widal, reaction is often a great help to the physician, yet it presents certain disadvantages, and one of these consists in its delayed appearance. Often the positive reaction does not occur until the tenth day, and at times it does not occur until the beginning or even the end of the third week.

It is very important to make an early diagnosis in typhoid fever, as the earlier the patient obtains the proper treatment and rest, the better the chances for recovery. In order to give the physician every chance for an early diagnosis the Subdepartment of Health has placed a set of combined typhoid outfits in each of the 106 culture stations throughout the city, and physicians may obtain these upon application.

These culture outfits contain the usual aluminum box for the blood drops used in making the Widal reaction, and the coverslips for the diagnosis of malaria. But, in addition, they contain a tube containing bile, which can be used for making a culture from the blood.

This method possesses two advantages over the ordinary Widal reaction. In the first place, the organism is obtained directly from the blood, and it can be determined whether the bacillus is the bacillus of typhoid fever or the paratyphoid bacillus. In the second place, the bacillus of typhoid fever is present in the bloodstream in about 90 per cent. of cases during the first week, as shown by the researches of Conradi and Peabody. It is just during this time that the Widal reaction is apt to be negative, and the culture from the blood enables the physician to make an earlier diagnosis.

There is one slight disadvantage in making a diagnosis by means of the culture in the bile from the blood, and this is the time

which elapses between the reception of the bile at the laboratory and the identification of the bacillus as the typhoid bacillus. The bile must be plated out, and then colonies selected and studied, but in from two to three days a positive diagnosis can be made; and if the blood is sent at the beginning of the first week, a first-week instead of a third-week laboratory diagnosis can be made. In a series of 40 cases already examined at the laboratory we have isolated the Bacillus of typhoid fever in 15 instances, and in one instance each we have obtained the Bacillus pyocyaneus, the Bacillus paratyphosus and Bacillus coli. In order, therefore, to obtain an exact and early diagnosis physicians are requested to use the bile for blood cultures, as well as the ordinary outfits for the Widal and malarial examinations, all of which are to be found in the new outfits.

The following directions are inclosed in each outfit, so that the physicians may be fully instructed in the use of what the department hopes may prove to be a valuable addition to the methods of diagnosis in typhoid fever:

DIRECTIONS FOR OBTAINING A BLOOD CULTURE IN TYPHOID FEVER AND PARATYPHOID INFECTION.

Blood Cultures.—In order to obtain a blood culture in cases of typhoid fever or paratyphoid infection, the finger-tip or lobe of the ear should be carefully washed and then disinfected with 1-1000 bichloride of mercury or 5 per cent. carbolic acid. A large surgical needle, or better, a regular blood stilet, should be used after sterilizing it to puncture the finger or ear lobe. Ten drops of blood should then be allowed to flow into the tube of bile, which will be found in the case. The tube should then be stoppered as before, placed in the case with the rubber stopper up, and the outfit should be sent to the department, but not by mail. The typhoid bacillus is frequently found in the first week of the disease, when the Widal reaction is still negative. An early diagnosis may be thus secured.

These outfits cannot be sent by mail.

PREVENTION OF CONTACT AND CARRIER CASES BY MEANS OF THE NEW OUTFIT.

In former articles in the JOURNAL the Subdepartment of Health has called attention to the importance of boiling the drinking water, heating the milk at 60 degrees for 20 minutes, and avoiding raw vegetables and oysters, unless the source is known to be free from pollution by sewage.

The Imperial Health Department of Germany has reduced these causes of typhoid fever to a minimum in its country by enforcing proper regulations, and at present it is mainly concerned in attacking the problems of "contact" and "carrier" cases. By "contact" cases are meant cases of typhoid fever which apparently are infected by being in close contact with other febrile or convalescent patients in the house; and by "carrier" cases are meant persons who have had previous cases of typhoid fever, but who may

still excrete the typhoid bacilli in their feces months and years after recovery from the disease.

Such "carrier" cases usually handle food, either as cooks or as dairymen, or handlers of milk in stores. An interesting milk-borne epidemic is described by Lumsden and Woodward in the *Journal of the American Medical Association*, 1909, p. 749. A sudden outbreak of typhoid fever in Georgetown was traced to a dairyman, where one person handling the milk was found to be excreting large numbers of typhoid bacilli in the stools. Forty-eight out of 54 cases which developed were among persons who used milk from this farm, and when the milk was excluded from the market the epidemic ceased.

A good example of a "carrier" case in a cook is furnished by Park in the same journal, 1908, p. 981. This cook was employed in eight families, and in seven of these families 26 cases occurred, with one death. An examination of the feces showed that 30 per cent. of the bacteria voided in the feces consisted of typhoid bacilli, and the repeated outbreaks in the various families were due to handling of food by hands often containing large numbers of typhoid bacilli. In 400 cases of typhoid fever Lentz found that 6 retained the typhoid bacilli in their stools for from 3 to 13 months, and also reports 9 cases which caused outbreaks in which the stools contained typhoid bacilli from 1 to 42 years after the attack of typhoid fever.

The typhoid convalescent is also a source of danger, as occasionally they excrete bacilli in the urine or feces for some time after they have begun to mingle with the public. Both "carrier" cases and convalescents are only dangerous when in certain positions, such as described. It is very important, however, to know when the feces of housekeepers, milkers, dairymen, cooks, grocers and market men who have suffered from an attack of typhoid fever are free from bacilli, and all convalescents should be examined a month or two after recovery, and the great majority will be found free from bacilli at the end of this time. If bacilli are still present, even persons with ordinary vocations should be warned to disinfect the hands after going to stool, in order to protect the public health and their families.

In order to assist health wardens and physicians in limiting the spread of typhoid fever by "contact" or "carrier" cases the Subdepartment of Health has placed instructions in the combined typhoid outfits, showing how the bile tube can be used for detecting the typhoid bacillus or other bacteria causing intestinal infections in the feces, and these directions are as follows:

DIRECTIONS FOR CULTURES FROM THE FECES AND URINE OF CASES OF TYPHOID FEVER, PARATYPHOID INFECTIONS, EPIDEMIC DYSENTERY, AND CONVALESCENT OR CARRIER CASES FROM SUCH DISEASES.

Fifteen drops of urine should be put in the bile tube in order to detect the presence of the bacteria in this fluid. In order to take

a culture from the feces, simply obtain about 1 gramme, or 15 grains, of the feces on the cotton swab which will be found in the outfit. Rub this up in the bile and then burn the swab. Place the bile tube in the outfit in the same way it was found and send to the department. Wrap the bile tube carefully in cotton before replacing it in the case. Please fill out the blanks to be found in the outfit.

These outfits cannot be sent by mail.

Many cases of typhoid fever may be prevented if these precautions are carried out, and the feces and urine of convalescent carriers or chronic carriers should be disinfected by 5 per cent. carbolic acid.

The feces of early cases also frequently contain typhoid bacilli, and the bacteriological examination of the feces may also result in an early diagnosis. The combined method still admits of the use of the Widal reaction, but adds to the chances of an early diagnosis by offering an opportunity for a culture from the blood or feces.

It is hoped that the physicians of Baltimore will use this combined outfit and that the department may aid in securing earlier positive information. WM. ROYAL STOKES.

DISEASES OF THE SKIN AND ERUPTIVE FEVERS. By Jay F. Schamberg. Price, $3. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co.

Special emphasis is as it should be laid on diagnosis and treatment. All skin eruptions are described, including the exanthematous. The illustrations are timely, well executed and applicable to the text. The book is modern, well printed, reliable and a distinct addition to the literature upon eruptive disorders. It contains the very latest achievements in actino, radium and roentgentherapy.

TREATMENT OF DISEASES OF CHILDREN. Second Edition. By Charles G. Kerley. Price, $5 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co. 1909.

No better authority could have undertaken the task. Whilst scientific, it is eminently practical. The illustrations, though not numerous, are well suited to the text. The sequence of the text is logical, and leads the reader from one subject to another without any harsh breaks. Chapters are devoted to Nutrition and Growth, Gastro-Enteric Diseases, Diseases of the Respiratory Tract, Contagious Diseases, Nervous Disorders, and a large chapter to therapeutic measures without drugs. The contents are up to date and reliable, and the style concise and clear.

MARYLAND MEDICAL JOURNAL

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THE FILTHY, PESKY HOUSE FLY.

This ubiquitous little pest has again claimed its own, has mounted its throne and reigns supreme throughout the land. Why is it tolerated? Perhaps because we are so well acquainted with it and think it a necessity of the season; perhaps because it is considered by some a scavenger. Its virtues as an ideal bacteria carrier far outweigh its usefulness as a destroyer of decomposing organic material; therefore it is the duty of the individual to the community to so dispose of noxious waste as to afford neither food nor breeding grounds to this pestiferous insect.

As it has been proven beyond peradventure that the germs of typhoid fever, tuberculosis, cholera and other intestinal affections are conveyed by flies, mechanically on legs and body, to the victims or their food, sanitarians and health authorities must of necessity in the near future turn their attention to the extermination of this annoying and filthy pest. Here, as in the case of the transmittal of malaria, the instruction must be along preventive lines. It should be their endeavor to arouse the public to the dangers lurking in the toleration of the fly and inform them how to wage a successful campaign for its extermination.

Its breeding places and food supply must be shut off. Raw sewage must be treated before being discharged into streams, manure pits must be screened, decaying vegetable material must be burned or buried, and drains or sinks must be treated with kerosene or chloride of lime. Windows and doors should be screened. If perchance the fly gains entrance to the house, and especially to

the sick-room, it should not be allowed to depart, but killed. Pyrethrum powder burned in a house will rid it of flies by either killing them outright or so stupefying them that it is an easy matter to accomplish their death.

As filth is necessary for its flourishment, strict cleanliness marks its death-knell. The presence of flies indicates uncovered filth near at hand, or dirt exposed to the action of sunlight, as they do not breed in the dark.

Relief lies in forcing stable-owners to handle manure in such a manner as to prevent its being used as an oviposit, as horsedung is the chief depository of fly eggs.

PELLAGRA.

Pellagra, a disease occurring in Italy, Southern France and Spain, and attributed to the use of diseased maize, hitherto unknown in this country, has recently gained a foothold in the Southern States and is reported to be on the increase.

It is characterized in the early stages by debility, spinal pains and digestive disturbances; later erythema develops, with drying and exfoliation of the skin. In severe cases various mental manifestations arise, such as spasms, ataxic paraplegia and mental disturbances. In cases presenting ataxic paraplegia the spinal cord has shown combined posterior and lateral sclerosis. The patient at first feels unfit for work, suffers from headache, giddiness and a burning of the skin, associated occasionally with a red or livid rash, which is very painful. The patient's condition improves during the winter months, but as soon as spring reappears the symptoms become exaggerated, the nervous system suffers a breakdown, and as the disease progresses the patient passes into a state of hopeless insanity or imbecility. The disease is more prevalent in the spring, decreasing as fall comes on.

A commission from the United States Department of Agriculture is at present in Italy for the purpose of discovering the cause and means of preventing the disease.

Apropos the presence of pellagra in the South and with our close relationship, commercially and socially, with that section, it may not be inadvertent to note that Thayer (*Johns Hopkins Bulletin,* July, 1909) reports the occurrence of two cases in Maryland.

Medical Items.

DeWitt Casler, M.D., has resigned as resident gynecologist at the Johns Hopkins Hospital.

Special school camps are being held by the Army Department at Antietam, Md., Sparta, Wis., and San Francisco, Cal.

The first meeting of the Medical Associations of the Pacific Northwest were held at Seattle, Wash., July 20 to 23.

S. O. Mast, M.D., has been awarded the Cartwright prize of $500 for his thesis on "The Reactions of Lower Organisms to Light."

Bennett Bernard Brown, M.D., University of Maryland, was operated on June 30 at the University Hospital for appendicitis.

The Sixteenth International Medical Congress will be held at Budapest, Hungary, from the 29th of August to the 4th of September, 1909.

Contract has been awarded for improvements to the Hospital for the Women of Maryland, Lafayette avenue and John street, Baltimore, Md.

The International Council of Trained Nurses opened at Church Home, Westminster, London, on July 19, with many American nurses in attendance.

Thomas Joseph O'Donnell, M.D., University of Maryland, '03, has been appointed as a police surgeon to succeed Rastus Ransom Norris, M.D., resigned.

The September number of the *Proctologist* will contain the papers (25, with the discussions) read at the 1909 meeting of the American Proctologic Society. There will be more than 150 pages by the foremost proctologists.

Charles Metcalf Byrnes, M.D., Johns Hopkins Medical School, '06, has resigned as professor of anatomy and assistant in neurology at the University of Virginia to accept a position as instructor in neurology in the Johns Hopkins University.

The following physicians were elected as officers for the ensuing year at the annual meeting of the Faculty of the Maryland Medical College: President, Alexander D. McConachie; vice-president, J. William Funck; dean, Harry Gross, and assistant dean, W. S. Smith.

John Scanlon, M.D., who is in charge of the State Insane Hospital at Warm Spring, Mont., visited Baltimore in June. A report made by one of his assistants two years ago showed that there was only one State which had poorer facilities than Maryland for the care of the indigent insane.

The next meeting of the Frederick County Medical Society for post-graduate study will be held August 11, at 2.30 P. M., in the Y. M. C. A. Building in Frederick, Md. The program is as follows: Clinical Report, Dr. H. S. Hodges; Acute Gastric Indigestion in Children, Dr. E. L. Bowlus; Acute Entero-Colitis in Children, Symptoms, Pathology and Treatment, Dr. W. H. Kable. Discussions by Drs. B. O. Thomas, O. B. Stone and Nicodemus.

Following the resignation of Dr. Samuel C. Chew, a number of changes were made in the Faculty of the University of Maryland. Dr. Charles W. Mitchell will succeed Dr. Chew as professor of the principles and practice of medicine; Dr. Arthur Marriott Shipley will fill the chairs of therapeutics and pathological surgery; Dr. Harry Adler was made clinical professor of medicine, and Dr. Irving J. Spear clinical professor of psychiatry and diseases of nervous system.

MARRIAGES.

On June 30, Walter C. Gilday, M.D., Albany Medical College, '94, to Miss Lilian Randolph Bailey.

On June 30, John Robert Abercrombie, M.D., University of Maryland, '95, to Miss Anna D. Schultze, M.D., Woman's Medical College.

DEATHS.

George Heron, M.D., Howard University Medical Department, '87, at his home in Washington, June 27, aged 72 years.

Ezekiel Dawson, M.D., at his home in Baltimore, June 27, aged 79 years.

Edward Zina Cole, M.D., Hahnneman Medical College, '79, at his home in Baltimore, June 29, aged 55 years.

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Book Reviews.

Analytical Index of the Medical Review (London). Volumes I to X, 1898 to 1907. Like the invaluable "Digest" of the late Dr. Neale, each reference states in a few words the important fact of the article referred to.

The Ophthalmic Yearbook, Volume VI. A Digest of the Literature of Ophthalmology, With Index of Publications for the Year 1908. By Edward Jackson, University of Colorado; George de Schweinitz, University of Pennsylvania; Theodore Schneideman, Philadelphia Polyclinic. Illustrated. Denver: Herrick Book Co. 1908.

A yearly summary of his specialty appeals to every progressive worker. The book opens with brief biographical sketches of deceased ophthalmologists here and abroad. About 100 pages are given to general considerations, such as new and perfected means of diagnosis, visual economics, advances in pathology and therapeutics. Individual diseases are then taken up point by point: then new operations. Finally an index of books, transactions and journal articles for the year. The whole volume is indexed. Some points are of interest to the general practitioner, as the reference to Juvenile Tabes; the efforts to devise glass shades which will relieve the eye of the injurious influences of electric and mantel lights; the study of hereditary blindness; the value of synthetic adrenalin, which can be boiled; the cure of trachoma by radium; the studies in glaucoma; reports of blindness from filix mas and from atoxyl.

New-World Science Series. Human Physiology. By John W. Ritchie. Yonkers-on-Hudson, N. Y.: World Book Co. Price 80 cents. 1909.

The scientific reviewer is perhaps not a fair judge of a textbook written for the use of children of various ages in the schools. We suspect that although it seems to us rather a jumble of things, it is really a very successful effort to meet the modern fad for teaching children about their insides. We can freely recommend Professor Ritchie's little book to adolescents and to adults for recreation as well as for elementary study of the subjects mentioned in the title.

There are a number of blemishes which should be corrected in future editions. The language in places is too scientific, and such footnotes as the definition of "cytoplasm" are out of place in this treatise. There are many untrue statements: That lubricant mucus is "sticky"; that carrying of heavy loads causes bowlegs in older children; that night animals see at night because their pupils become large. If it is necessary to teach children science, the actual facts should be carefully given. We question whether a child should be aroused to concern as to the contraction of his psoas muscles, and the child who obeys instructions and asks the druggist what enzymes he has in stock will be thought peculiar by Southern people.

The author throughout is very modest. He evidently does not believe the child should be instructed at school about the sexual

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organs of himself and his schoolmates, nor about micturition and defecation. Perhaps it is better so. When you begin on these themes it is hard to decide where to stop.

The author's idea that health teachings to children are best based on physiological facts is a good one. His book should have a very successful career.

Some Further Advances in Physiology. Edited by Leonard Hill. New York: Longmans, Green & Co. 1909.

The value of such a work is self-apparent; the endeavor to show the relationship between what is generally regarded as purely a scientific and experimental subject, with the practical and clinical aspects of medicine, is most desirable and commendable. The handling of the subject in sections is of decided advantage. There is little added to our present knowledge on the heart's action. I am inclined to believe that the majority of physiologists regard the myogenic theory as the true one relative to transmissions of heart waves, regulated by extra-cardiac nerves. The author pays but scant attention to the constituency of blood, as being an important factor in the heart beat. The book is well written and is worthy of a place on the shelves of medical men.

Myomata of the Uterus. By Kelly-Cullen. Price, cloth, $7.50 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co. 1909.

This book is based upon the pathological, clinical and operative findings in 1674 cases, the deductions being those of the authors exclusively. Especial space is given to sarcomatous degenerations associated with myomata. The operative procedures described are those personally employed by the writers. The reduction of the mortality rate from 6 per cent. to less than 1 per cent. by improved methods and technique merits attention. Kelly and Cullen have in this work outdone all their previous literary efforts by presenting to the medical profession a classic in its line. No expense or time has been spared by the authors, publishers or illustrators. No gynecologist or abdominal surgeon should be without it, and general practitioners will find much to interest them.

Diseases of the Bones and Joints. By J. E. Goldthwaite, C. F. Painter, R. B. Osgood. Boston: D. C. Heath & Co. $6 net. Cloth.

Anybody looking for information about rare and obscure and neglected bone and joint lesions will find enough in this volume to interest him. Chronic joint affections considered beneath the attention of others are here fully discussed, and command as careful consideration as acute. Much space is devoted to that obscure group, Rheumatoid, which they divide into the Atrophic Type, Rheumatoid Arthritis, and the Hypertrophic Type, Osteo-arthritis. Other subjects treated are: Tuberculosis of Bones and Joints; Infectious Arthritis; Lues of Bones and Joints; Intermittent Hydrops; Villous Arthritis, and a host of other interesting conditions. Nothing has been neglected or slighted by the publishers in furnishing the profession with the most up-to-date book upon

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Bier's Hyperemic Treatment. By Willy Myer - Schmieden. Price, $3 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co. 1909.

The fact that four large tracts have been required to supply the demand speaks for the value of the book. Those who desire to learn the extent of the application of Bier's hyperemic treatment and the method of its application get here the information from acknowledged authorities. The reader will undoubtedly be surprised to learn the number of affections to which it can be applied with benefit. This edition has been thoroughly revised and many additions made. An index upon the subject has been furnished. The cuts are numerous, apropos and pertinent to the text. The book is so eminently practical and the results so remarkable that no practitioner of medicine can afford to be without a copy.

The Psychic Treatment of Nervous Disorders. By Paul Dubois. Sixth Edition, Revised. Price, $3. New York: Funk & Wagnalls Company. 1909.

In the new edition of this work we have an excellent introduction by the author, which clearly sets forth the object of the work and the foundational principle of the same. It is one of the best works on psychotherapy. The principles are sound, and if carried out lead to cures, not alone to temporary relief. The author distinctly states that psychotherapy as the sole weapon is only to be used in certain cases. It is a book that is valuable, and should be read by every practitioner, but is dangerous in the hands of all those who attempt to apply its principles without thorough medical education. The rocks upon which the author's success are founded are thoroughness of examination, sympathy, confidence, persuasion and education.

Tuberculosis: A Preventable and Curable Disease. By S. Adolphus Knoff, M.D. Price, $2 net. New York: Moffatt, Yard & Co.

This is a very high-grade work, by one of the best-equipped American experts, and contains in a short space, in addition to scientific facts, a host of valuable suggestions to the ordinary citizen. Its 12 chapters treat of: What a patient should know about his disease. What those about him should know. The duties of the physician. Home use of sanitarium treatment. The duties of sanitarians in prevention; of health officers; of city and State legislators; of employers; of educators; of philanthropists; of the public. The illustrations include many sanitariums and sanitary appliances. We are particularly impressed by those illustrating methods of home prevention, such as repiratory exercises, sanitary rooms, plans for dwellings, open-air schools. It is a good book, and withal cheerful.

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MYASTHENIA GRAVIS (ASTHENIC BULBO-SPINAL PARALYSIS).

By Irving J. Spear, M.D.
Clinical Professor of Neurology and Psychiatry, University of Maryland.

The reporting of all cases of myasthenia gravis I believe desirable, for by the accumulation of material and by a systematic study of it we may be able to solve the mystery of the functional neuroses.

We have here a distinct clinical entity, presenting many of the symptoms of a functional neurosis, which, with few exceptions, terminates in death, yet, in spite of the most careful post-mortem examination, revealing no distinct pathological changes by which we can explain any or all the symptoms.

The first case recorded is in English by Willis[1] in 1648. In 1877 Wilks[2] described a case in which typical symptoms were present. The patient died; a post-mortem was obtained and the medulla examined with negative findings.

In 1891 Goldflam[3] called attention to the fact that the characteristic symptom of the disease is the abnormally rapid fatigue of the muscles rather than a paralysis.

In 1895 Jolly[4] described the myasthenic reaction—that is, the rapid loss of faradic reactivity of the affected muscles. with unaltered retention of galvanic reaction, with recovery of faradic reaction after a period of rest.

In 1897 Berkley[5] published the first case in America. The clinical picture of the disease is now well established. It is, as a rule, a slowly progressive disease, with remissions and intermissions, running its course in about three years. A few cases pursue a rapid course, Widal and Marinesco[6] reporting a case that terminated fatally in 14 days, and Devendorf[7] one that terminated fatally in 29 days.

In more than 50 per cent. of the cases the first symptom occurred as a transitory weakness in the muscles supplied by the third, fourth, fifth or sixth nerves, such as ptosis, diplopia, difficulty in

chewing, etc. In some cases the disease manifests itself by difficulty in swallowing, lack of facial expression, drooping of the lower jaw, dyspnea, tachycardia and rapid fatigue of the extremities, these symptoms coming on after slight prolonged use.[8]

Myasthenic reaction is not always present. It occurs in some cases as a passing symptom; in others it has not been obtained.[9] In a few cases there are present sensory disturbances[10, 11, 12]—mental disturbances[5, 13, 10] or muscular atrophy.[14, 15] Patients suffering with this disease differ markedly from those suffering with neurasthenia. The neurasthenic after a restless night arises in the morning feeling physically and mentally exhausted. This feeling as the day progresses becomes less marked, whereas the myasthenic after a comparatively quiet night arises full of hope and feeling physically fit to begin the day's battle; but, alas! before the struggle has fairly begun he is exhausted and must rest; then, after a time, he again tries his mettle, only to fail again. For the former the day begins with despair and closes with hope; for the latter the day dawns with hope, and with its close comes despair.

The following is the clinical history of case seen by me in January, 1907: Miss E. P. consulted me at the University of Maryland Hospital, complaining of nervousness, difficulty and inability to chew and swallow food, and of getting worse; age 48; duration about three years; white female, single.

Family History.—Father living; age 74; healthy. Mother dead; age 66; cerebral hemorrhage. Two brothers living; healthy. Two sisters living; very nervous. No history of tuberculosis, rheumatism, heart or kidney disease, neurosis or psychosis.

Past History.—Had measles and whooping-cough during childhood. At age of 20 had typhoid; made good recovery; no sequela.

Menstrual History.—Menses first appeared at age 15 and regularly thereafter until about two years ago, since which time they have been very irregular.

Present Illness.—About three years ago, patient says, she had la grippe; was sick about one week; recovered. About one week after this noticed drooping of the right upper eyelid. This apparently got well, but recurred at irregular intervals, sometimes lasting for five or six days. About two years ago began to have trouble in chewing solid food. First noticed this in Atlantic City while chewing a piece of tongue in August, 1905. This lasted several days, and did not recur for two or three months, when she again had difficulty in chewing and in swallowing, food seeming to choke her. Her eyelid again began to droop; saw double at times; got tired very easily. After this would get better at times, but not entirely well. Felt very nervous; noticed marked weakness in arms and legs; tendency of the lower jaw to drop open; accumulation of saliva in mouth, which, however, did not dribble out. Complains of weight on chest, attacks of dyspnea, palpitation of the heart, appetite poor, bowels irregular. Always feels much better in the morning and when she keeps absolutely quiet, even talking

readily exhausting her. Patient continually supports chin with her hand.

Physical Examination.—Patient has rather delicate framework; not muscular; thin and nutrition poor; lying quietly in bed shows no evidence of pain.

Skin: Loose, thin and elastic.

Teeth: Very defective; plates in both jaws.

Neck: In jugular fossae there is rounded projection, which patient says has been there for years. This mass is firm, smooth and does not pulsate; no bruit heard over this mass. Lateral lobes of the thyroid are slightly enlarged. No enlarged glands in neck; no marked throbbing of neck; external jugulars are much swollen; stand out like cords, almost the size of little finger.

Chest: Lungs resonant both apices; distinct dullness behind the manubrium and a little to the left of it, possibly related to the mass in neck. (X-ray later showed this mass and mass in the jugular fossae are continuous, and that it is not a pulsating tumor, but probably thymus growth.)

Right lung liver limit on normal level descends on inspiration. Whole thorax shows systolic heave, this heaving most marked in left infraclavicular space, maximal 2 or 3 cm. to left of sternum.

Apex beat in fifth interspace in mamillary line.

There is area of resonance between absolute cardiac dullness and above and behind the manubrium. No cardiac murmurs heard at time of first or later examinations, but during first week, on February 10, and persistently thereafter a distinct systolic murmur was heard over the entire precordial region, maximal in the third left interspace. Murmur is soft in character. No aortic diastolic murmur heard. No diastolic shock felt over heaving mass. Slight systolic bruit can be heard over dull area behind and to the left of the manubrium. Pulses equal at the two radials; 112 to the minute; volume and force poor.

Respiratory murmur equal on the two sides of the chest.

Abdomen: Aorta markedly pulsating, otherwise nothing noted in abdomen or pelvis by external examination. No edema or ascites.

Examination of Nervous System.—Motor functions: Muscles are small, but no atrophies. Muscular tone is fair, but not up to normal.

Muscular power is poor; patient makes several efforts, and she says she is tired and can do no more. Moderate grip in both hands. No tremors, but complains at times of jerking in the lower extremities.

Reflexes: Deep reflexes are all exaggerated; skin reflexes are normal; rectal and vesical reflexes are normal. Babinsky phenomenon is absent. Co-ordination of upper and lower extremities is fair.

Sensory functions are all normal. There are parasthesias complained of in upper extremities; a feeling of numbness in fingers and hands.

Cranial Nerves: First normal; distinctly defines the odors of various substances. Second apparently normal; no fundal examination made.

Pupils react to light and accommodation.

Third, fourth, sixth, seventh: On looking up the forehead is well wrinkled, but twitching of eyebrows is accentuated. Convergence is fair. No nystagmus except on strong lateral deviation; cannot look long without winking. Distinct ptosis of right eyelid, which can be overcome by voluntary effort, the lid slit being much narrower on right side than left. When she opens eyes full the left eye is overopened, the lid slit being laterally wider than medially. Complains of feeling nervous on looking up and on examination. There is dissociation of movement between left eyeball and left eyelid; constant slight jerkings of elevators of eyebrows and corrugators.

The zygomata are prominent. She says she cannot show her teeth, but does so fairly well. She retracts the right angle of her mouth better than the left. She cannot whistle, and makes only poor attempt at laughing. Hearing is good.

Fifth: Mastication difficult; tires easily; frequently uses hand to support the chin and assist in the act of chewing.

Ninth and Tenth: Has great difficulty in swallowing; always feels as if she were choking. Pulse continuously rapid—90 to 130. Always an excess of saliva, but no dribbling.

Eleventh: Contracts both sterno-cleido-mastoids well, but they are easily tired.

Twelfth: Tongue protruded in the median line; no tremor or atrophy. Talks very little, as it exhausts her. No reaction of degeneration. Is very nervous and depressed. Patient was under observation for six weeks; put in bed and put on rest cure, overfed with liquids. Weight increased from 85 to 95 pounds, otherwise she was but slightly improved. Urine was normal in amount and chemically. Blood was apparently negative; hemaglobin 80 per cent. Patient went home, but got no better.

Was again seen by me on May 6, 1907, and her condition was almost similar to that of the first examination. At this time her muscles were tried for the myasthenic reaction, but as the test was made against the will of the patient, and under unfavorable circumstances, the result, which was negative, was by no means satisfactory. Recently I received word from the attending physician that the patient was having severe attacks of dyspnea and tachycardia, great difficulty in swallowing and chewing, and was very weak, being almost unable to leave her bed, having frequent attacks of dyspnea.

In July, 1908, patient died at her home with cardiac affection, which her physician described as a very rapid, irregular heart without force. No autopsy was obtained.

We have here a typical case of myasthenia gravis, pursuing a characteristic course, beginning with transient weakness of the ocular muscles and muscles of mastication, later involving all of the voluntary muscles, the respiratory and cardiac muscles, terminating in about four years with cardiac asthenia.

I desire to call attention to presence of a mediastinal tumor in this case and to the cause of death, respiratory and cardiac exhaustion. From the study of the literature and reported cases of this disease I believe the conclusions as set forth by Buzzard[10] in the concluding three paragraphs of his monograph about represent the present knowledge of this malady.

"Myasthenia gravis is a disease in which the symptoms are not always confined to the motor system, but may include others of sensory, mental or other origin; that in all probability it has a definite and constant morbid anatomy constituted by the presence of widely distributed cellular and sometimes serous exudations (lymphorrhages) in the tissues and organs of the body; that slight muscle-fiber changes are frequent, and severe muscular atrophy rare occurrences in the disease; that proliferative and degenerative changes in the thymus gland are frequently, but not constantly, met with; that the symptoms of the disease are best explained by assuming the presence of some toxic, possibly autotoxic, agent, which has a special influence on protoplasmic constituent of voluntary muscle, and a less specialized influence on other tissues; that the relation of this toxin to the incidence of lymphorrhages and thymic alterations is not clear."

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THE TRUE FUNCTION OF THE TUBERCULOSIS NURSE.

By Mary E. Lent,

Head Nurse of the Instructive Visiting Nurses' Association of Baltimore.

READ AT THE SIXTH INTERNATIONAL CONGRESS ON TUBERCULOSIS.

At present the campaign against tuberculosis is almost entirely an educational one. People are being taught by two different methods, brought to bear on two different social classes. In the first place, there is the instruction of groups or communities by means of lectures, exhibits and the press. The people reached by this method are well above the poverty line, their habits and circumstances of living protect them as a rule against tuberculosis, which is found among them only incidentally—tuberculosis being essentially a disease of poverty. This instruction, nevertheless, is extremely important for the following reasons: to enable people of this class to protect themselves from incidental contraction of the disease, and because it is largely their feelings and opinions which constitute what is known as public sentiment, in the rousing of which lies the only hope of stamping out the disease for all members of the body social. It is becoming more and more clear that the suppression of tuberculosis demands the segregation of all patients who are centers of infection, and the only way of bringing this about is by educating popular opinion to the point of expressing itself in legislation which shall deal with tuberculosis in this radical way.

The second method is the instruction of individuals, themselves tuberculosis patients, belonging to the class which this disease claims as peculiarly its own—namely the poor. In order to see clearly the conditions and results in the case of this method I will make a brief survey of the history of its development in Baltimore. A few years ago, when the tuberculosis problem came up for the first time, its solution was thought to lie in teaching the class of people specially subject to the disease; showing them in their own homes how to deal with it when contracted, how to prevent its spread, and how to guard themselves by living hygienic and careful lives, all of which seemed feasible at this time. The best means of conveying this instruction seemed to be the appointment of nurses who should visit tuberculosis patients and treat them according to their needs. I think that Baltimore was the first city that undertook to support a nurse for this purpose. When the first tuberculosis exhibition ever held was opened in Baltimore in February of 1904, so great was the interest awakened, and so much was hoped for from the teaching of the poor by nurses, that Mrs. William Osler undertook to raise a fund to support a special nurse to do this work. At the same time, through the generosity of Mr. Victor Bloede, the dispensary of the Johns Hopkins Hospital was given a special tuberculosis nurse whose work should

include visits in the homes of the patients. These two nurses, one under the supervision of the Instructive Visiting Nurses' Association, the other attached to the Hopkins, divided the city between them, visiting all consumptives that were reported to them. Today the Hopkins has two special tuberculosis nurses, and the Association has four. The Association nurses visit advanced and hopeless cases, where the patients are on or below the poverty line, while the dispensary nurses give class instruction to early cases taken from those whose financial as well as physical condition hold out some prospect of cure. Both sets of nurses are engaged primarily in the education of these people, and the people are learning—the few who can and will apply the teaching to their daily lives and the many who cannot and will not.

To my thinking the nurse is justly selected as the best qualified to act as teacher. The doctor can only diagnose, he has neither the time nor the opportunity to be a teacher—even to carry out his own work he has to use the nurse as his interpreter and go-between. It is sometimes contended that recovered tuberculosis patients would make good teachers, but not even a patient who has been cured can carry the sense of conviction that comes with a capable and experienced woman who belongs to the nursing profession. A woman of this sort when she has entered a home includes in her care all of the patient's family, as well as himself. Of course, her attention is directed primarily toward the comfort and needs of the latter, but at the same time she instructs the family how to administer to those needs, giving them valuable practical knowledge while developing in them a sense of responsibility which they would not feel if she shouldered the whole burden. She studies the moral as well as the physical conditions of the whole family and diagnoses their requirements, where necessary calling in other agencies for help and relief. She goes to market with the family, advises as to kinds and qualities of food and the method of cooking it; sees to the plumbing and reports unsanitary conditions to the proper authorities. All this means possibilities for the education of the people and the reconstruction of their home lives which, in the hands of an energetic and well-trained nurse, far exceed those of any other agent. The conclusion is therefore justifiable that if the suppression of tuberculosis could be effected at all through the education of the class of people most concerned, the visiting nurse is the one whom we must employ for this end. In the beginning it was confidently expected that her teaching might bring forth fruit, if not in cures, at any rate in preventing the spread of tuberculosis, thus solving the most important part of the problem. But now comes the question as to whether or not this expectation has been fulfilled. As a matter of fact, the experience of four years of continuous work in the homes of tuberculosis patients of the class under consideration has demonstrated to me that the results hoped for have not been obtained, and moreover are not obtainable by this method. There is now no part of Baltimore where instruction

concerning tuberculosis has not been given. The people are well aware of what it means, of the methods of treatment and of prevention. Those who have not had it in their own families have learned from friends or neighbors who have been visited and taught by nurses. They are always interested in their neighbors' affairs and fond of talking about their own, moreover they are, as a rule, willing to tell all they know and to listen to all they can hear in the way of general information. They recognize the district nurse by her uniform, and it is a daily occurrence for some one to speak to the nurse as she passes through an alley asking her to go to see some consumptive of whose existence she had not known. Many of the better class have been to lectures and exhibits, though it must be said that it is only through the nurse that this counts for anything in the way of education, because almost none of them grasp the significance of what they hear and see except as the nurse interprets it to them and shows its application to their own lives.

Yet with all the body of information which is now possessed by these people, and with all the practical aid which is given to help them in their application of it, tuberculosis in Baltimore shows no sign of decreasing. The failure of education as a method of suppressing the disease lies in the fact that even with the help they receive these people are unable to apply what they have learned consistently and unflaggingly in their daily lives—an inability due in the first place to lack of sufficient moral strength, in the second place to lack of the material necessities and requisite surroundings. It is only under the most careful supervision that they even begin to practice what they have been taught, much less carry it on as a systematic and permanent routine. On the other hand, it taxes the nurse's ingenuity to the utmost to find in their houses the means by which they can follow even one or two of the simplest rules of hygiene and prophylaxis.

During the past four years the Association nurses have visited 3000 different patients, of which number 50 per cent. were recipients of charitable aid. People who are thus demonstrated as being on or below the poverty line have not, in the nature of things, the means of carrying out the principles of hygiene, nor do their surroundings permit of it. Thus even where patients have the mental and moral capacity for making use of their instruction, they are again and again prevented from doing so by force of circumstances.

It follows then that the most that the nurse can do for these patients and their families by direct methods is to mitigate somewhat the evils of the disease for the individual sufferer. As concerns the primary object, that of controlling and ultimately suppressing the disease, her work is a failure; in other words, education of the class of people concerned is not an effective method of fighting tuberculosis.

This does not mean, however, that the visiting nurse is not one of the most valuable and indispensable factors in the work,

but only that the real service which she renders to the cause has taken a somewhat different shape from that which was originally planned. The realization of this fact ought to renew the courage of those tuberculosis nurses who are disheartened by the seeming lack of results in their work, and enable them to direct their future efforts with greater clearness of sight, and consequently greater efficiency. The true function of the tuberculosis nurse at present, as it appears to me, is of a two-fold nature. On the one hand, she can put facts so strongly before the public that the State will finally be obliged to take measures to accomplish what she herself has been unable to do. She is able to unearth and expose to the public conditions whose existence no one else could suspect. Her opportunities in this line are unlimited. She cannot stamp out tuberculosis by teaching her patients, but she can do an enormously important work toward the same end by enlightening the general public in regard to the facts of the case, and interpreting for them the conditions that render futile the present efforts to eliminate the disease. The logical outcome of the present effort to suppress tuberculosis is the segregation of patients who are unable to take care of themselves and to avoid spreading infection, and whose families are equally incapable of doing it for them. When the community has become sufficiently aroused to take action in the matter, it will provide for this segregation by building hospitals and compelling patients of this class to use them. This brings us to the second part of the nurse's function, namely, teaching the people to submit to this demand from the State, to forestall antagonism and hostility, to show how and why the measure is necessary, to create in alley and tenement an appreciation of what removal to a comfortable and attractive hospital would mean for the patient himself, and for the protection of his family. It is not enough that the general public should be educated to the point of seeing the necessity of building hospitals and of acting upon this necessity—the people must be educated to appreciate their value and to use them, otherwise it will be difficult, if not impossible, to get patients to enter. In the case of segregation made compulsory by the State, unless the process of education is steadily carried on, the hospital will fail in efficiency because of the antagonism that will be aroused. The possibilities of this part of the tuberculosis nurse's work have already begun to be demonstrated in Baltimore. When the Jewish Hospital for advanced cases of tuberculosis was recently opened in this city, there were not only enough patients taken from the visiting lists of the nurses to fill it on the first day, but waiting lists of four or five times the number the hospital could accommodate were filed with the president of the admission committee. Here we have segregation voluntarily entered into, with no feeling of shock or outrage on the part of the people involved. This state of affairs would have been impossible a few years ago, and that it exists now is due to the work of the nurses in teaching the patients and their families the true meaning and

use of such institutions, and creating in them the desire to take advantage of them.

If the State of Maryland would provide a hospital for advanced cases, well managed, attractive and comfortable, and within easy reach of the patients' friends, those who could not take advantage of this hospital would, under the influence of the tuberculosis nurses, be equally eager to enter that of the State.

To sum up, the most important function of the visiting tuberculosis nurse under present conditions is on the one hand, to demonstrate to the influential classes that the only method of stamping out tuberculosis is by vigorous compulsory segregation in hospitals provided for the purpose by the State, and to rouse them to the necessity of making this provision; on the other hand, to do away with the hostility which this measure will otherwise inevitably encounter on the part of the patients, and to make them ready and willing to use the means provided for their comfort and well-being as well as for the protection of the community.

THIRD REPORT, WELCOME RESEARCH LABORATORIES, GORDON MEMORIAL COLLEGE, KHARTOUM. Edited by Balfour. New York: Toga Publishing Co. Price $5.

The Third Report of the above laboratory is beyond doubt one of the most magnificent ever issued by any laboratory. In its 480 pages are recorded many interesting experiments and researches. The volume is profusely illustrated with exquisite multicolored and nontinted illustrations. Two volumes have previously been issued, and this brings the record of the researches of the laboratory up to 1908. The sciences of ethnology and anthropology have received considerable attention, but to medical men the work of the laboratory in those diseases peculiar to the tropics will be of more than passing interest. Sections are devoted to trypanosomiasis in the Anglo-Egyptian Sudan, piroplasmosis, spirochetosis of Sudanese fowls, sanitary notes, kala-azar in the Anglo-Egyptian Sudan, with many others of not strictly medical character. The Report is invaluable to those concerned with the teaching or investigation of tropical disorders.

PRINCIPLES OF PHARMACY. By Henry V. Arny, Ph.G., Ph.D. W. B. Saunders Company, 1909. Price $5.

Professor Arny's work should prove not only an ideal textbook for students of pharmacy, but for physicians as well. The inclusion of extracts from the pharmacopea makes it possible for the reader to familiarize himself with the accepted standards while acquiring the more extended information of the text. The physician, especially he who dispenses, will find the book an ideal one in getting at first hand the principles of pharmacy which are necessary to an intelligent understanding of the subject.

ROGER BACON, LINACRE, CAIUS, VESALIUS, FALLOPIUS, DOVER.

(1214-1564 A. D.)

SIXTH OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter VI.

In Europe the history of medicine from the decline of Rome up to the eleventh century does not present many characters worthy of record. Medicine was on a parallel with other sciences, and, along with them, was controlled by the orders. In vain do we search for evidence of advancement.

The monks, being the masters of the medical art, kept it on a plane with their ignorance and immorality. The schools at Salerno and Montpellier were, indeed, constellations; but even these were not sufficiently powerful to shine brilliantly in a world of so much darkness.

Salerno was made famous by the Schola Salernitina, a work which created quite a stir among the learned in the twelfth century. It was written by order of John of Milan, and is a collection of subjects taught at the famous school. A peculiarity of the work is that it is written in verse. Professor Ordronaux took the trouble to translate portions, among which is the following:

> Salerno's school in conclave high unites
> To counsel England's King, and thus indites:
> If thou to health and vigor would attain,
> Shun mighty cares; all anger deem profane;
> From heavy suppers and much wine abstain;
> Nor trivial count it, after pompous fare,
> To rise from table, and to take the air.
> Shun idle noonday slumbers, nor delay
> The urgent calls of nature to obey.
> These cures, if thou wilt follow to the end,
> Thy life to greater length thou may'st extend.

Robert, Duke of Normandy, son of William the Conqueror, stopped at Salernum on his return from the "Holy" war, and was there treated for a wound he had received. The injury having been due to a poisoned arrow, the physician informed him that his only hope lay in permitting someone to suck out the poison. To this the Duke would not agree, for fear of causing the death of the person who would attempt it. But one night, while he slept, his devoted wife stealthily performed the operation and thus saved his life. This faithful lady was Sybil, daughter of Geoffrey, Earl of Converfana, and was famous for her beauty and virtue. Unfortu-

nately, she was rewarded for her devotion by death, which resulted shortly afterward.

Deeds of this character occasionally illuminate the black pages of this period; but the vastness of the prevailing bigotry, cruelty and poverty of morals almost completely mask the few virtues.

A little later were established schools at Bologna, Oxford and Paris; to be followed shortly by the Universities of Pavia, Padua, Naples and Messina. The sway of the church on thought was slowly, though surely, beginning to lessen, and we note occasional gleams of intelligence and purity.

Roger Bacon, who lived in the thirteenth century, preached against the ignorance, superstition and immorality of the constituted clerical authorities, and was persecuted for his pains. His teaching was the first ray of sunshine to penetrate the medieval cloud, and was followed by others at greater or lesser intervals.

The membership of the different orders was made up principally of monks, whose claim to intellectual superiority consisted usually in a knowledge of reading and writing. Their oath of celibacy resulted in many immoral practices, and the church reached its greatest degradation when it finally leagued itself with the keepers of brothels.

In 1321 an English Cardinal, as an investment, purchased a famous London brothel with church funds.

At Mayence in 1179 the archbishop was charged with keeping such a large retinue of immoral women that the expenses to the diocese were greater than royal representation.

Much of this was, no doubt, due to the general prevalence of immorality, as it is recorded that the Knights Templar alone supported 13,000 *demi mondes*.

The Council of Montpellier in 1162, by an edict, prohibited the clergy from further practicing medicine; but the law was not strictly obeyed, for we find that, down to the time of Linacre, many of the secular, as well as the regular clergy, were still clinging to their former prerogative and combining the spiritual with the medical professions.

As might have been expected, this intended reform was not followed by immediate benefit. The absolute chaos to which the medical art had been reduced was not to be cleared up for some time. As a matter of fact, we find that at the period of the great plagues, in the fourteenth and fifteenth centuries, the medical practitioners had sunk to such a degree of inefficiency that they lost what little influence they had been able to build up in the preceding three centuries.

It cannot be said that Europe during this period was much of a success, looking at it from the viewpoint of civilization and contentment. It was certainly the black chapter of the story; and to whatever agency we attribute this deplorable and unparalleled condition, the result, as illustrated by history, clearly demonstrates that the controlling force was a bad one.

From a medical standpoint, it can be truthfully asserted that at

no time can we find such ignorance, superstition and folly, and in no age can we discover less to approve and more to condemn.

Sanitation was an unknown art. To this add the general immorality, the ceaseless strife and the deep ignorance of not only the common people, but the leaders as well, and we find a fertile field for that series of plagues and epidemics that played such dreadful havoc with mankind and that so nearly succeeded in wiping out medieval Europe. Leprosy, that most ancient of scourges, found a most encouraging habitat among the ignorant hordes, spreading its virulence far and near; and by the thirteenth century it had reached such frightful proportions that those afflicted with the disease formed themselves into orders or communities, made up solely of victims marked by most horrible disfigurements.

Every diocese possessed its leper-houses, or lazaretti; and the rattle of the leprous monk, dressed in his black gown, decorated with two white hands sewed on the breast, was omnipresent.

The Fire-Plague, or St. Anthony's Fire, or Holy Fire, was another disease which committed innumerable ravages from the ninth to the fourteenth centuries, and was even more horrible in its manifestations than the leprosy. It maimed and deformed its victims and created a race of legless and armless beings, tortured not only by the terrible burning fire from within, which consumed the flesh from the bones, but refused to them the consolation of death and an end to their sufferings until they had passed a number of miserable years. The disease often resulted in leaving a victim only with his head and trunk.

The Crusade of St. Louis resulted in the introduction of a peculiar form of scurvy in 1250, which extended far into the fifteenth century; and the Plica Polonica, a disease first heard of in Poland in the year 1287, was another of the epidemics due, no doubt, to the filthiness of the age.

Finally, in 1348, appeared the Great or Black Death, a plague which manifested itself in such rapid extension and great mortality that in Europe alone something like 25,000,000 deaths occurred before it exhausted itself. It caused 13,000,000 deaths in China, and in the East 23,000,000 perished.

The Arabian physicians declared that the disease destroyed two-thirds of the population of the world. In London alone there were 100,000 deaths; and it extended its ravages as far northward as Greenland and Iceland, visiting practically every portion of the then known world.

At first almost all those attacked died; but gradually the mortality decreased. Its course was rapid, and terminated usually in from three hours to three days. Buboes in the groin and axilla developed in the latter stages if the disease had not already proved fatal. Suppuration of a bubo was considered a favorable sign. Epistaxis, vomiting of blood, insensibility, or an eruption of gangrenous bullæ or petechiæ, meant a bad prognosis. Death was usually caused by gangrene of the lungs.

This terrible epidemic, the most fatal and widespread in the

world's history, finally terminated in 1382, having extended over a period of 34 years. During the next century several minor outbreaks of the same plague occurred; but in 1486 an entirely new form of epidemic manifested itself in the English Sweating Sickness, so called because it first appeared in England. Its most prominent symptoms were an extremely exhausting perspiration and an accompanying miliary eruption. Death usually followed at the end of 24 hours, but, if this period was successfully weathered, recovery took place between the eighth and fourteenth days.

The German method of treatment consisted in encouraging the perspiration in every way possible, and most of the patients were practically sweated to death. Blankets, feather beds and anything that could add to the heat production was religiously made use of. Later the English modified this treatment, as a result of a report of two mechanics, who made the discovery that a cooling procedure was more efficacious.

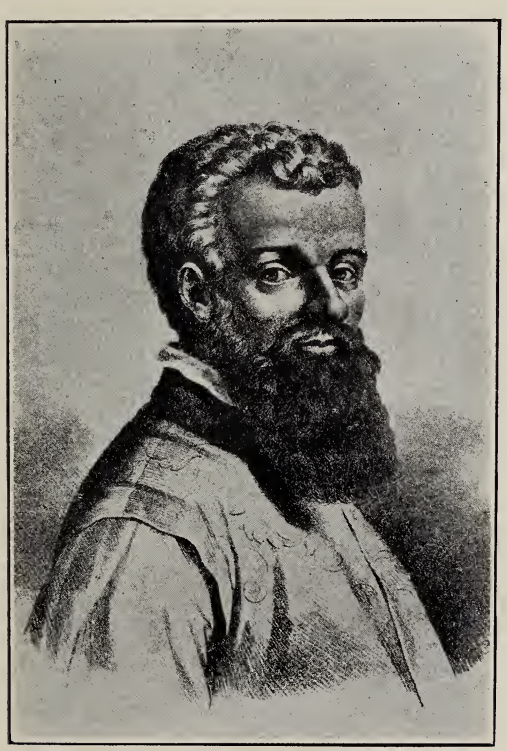
The abject ignorance of the times may be surmised from the uselessness of most of the medical profession, whose members were apparently more learned in theology and astrology than in the healing art. They attributed the spread of the Sweating Sickness and other plagues to every possible silly cause; and even the learned faculty of the Paris College of Physicians, in an official announcement, declared that the great mortality of the disease was due to the peculiar arrangement of certain constellations.

However, as we go over the latter part of this period, we note a few names of truly great proportions, among which may be mentioned Thomas Linacre of England; Francis Rabelais, a brilliant professor at the University of Montpellier, who wrote the famous works "Gargantua" and "Pantagruel"; John Kaye, founder of Caius College, Cambridge; Vesalius and Fallopius.

Thomas Linacre, one of the most distinguished physicians of the fifteenth century, was the pioneer in the study of Greek in England. He received his early education at Canterbury, his birthplace, and at Oxford, where in 1484 he was elected a Fellow of All Souls' College. Later he visited Italy, and took his degree at Padua. In 1501 he was engaged as the tutor of young Prince Arthur. When Henry VIII became King, Linacre was appointed royal physician, and his practice soon became extensive. It was due to his influence at court that the Royal College of Physicians was established, thus making medicine an important profession in England. Before his death, in 1524, he obtained letters patent for the establishment of readerships in medicine at Oxford and Cambridge. He left, at his decease, his house and library to the Royal College of Physicians, of which he had been the first president.

Following closely upon Linacre was John Caius, Kaye, or Keye, who was born in 1510. It is declared that he really intended to become a clergyman, but upon leaving Cambridge he took up a course of studies under Montanus, at Padua, and received his degree in physics at Bologna in 1541. After traveling through Italy, Germany and France, he set up in practice at Cambridge, then

moved to Shrewsbury, and later changed his location to Norwich. In 1547 he was admitted a Fellow of the London College of Physicians, and later served as its president for many years. He became, in turn, physician to Edward VI, Queen Mary and Queen Elizabeth, and was influential enough to change Gonville Hall into a college, which later became known as Caius College, Cambridge. On acount of the scarcity of anatomical material, dissection was almost an unknown luxury in the days of Caius, and he was, after much labor, instrumental in obtaining a grant for the College of



ANDREAS VESALIUS

Physicians to appropriate the bodies of two condemned criminals, annually, for dissection purposes. Even at this late date the church opposed the use of the cadaver for the study of anatomy. This was ostensibly on the plea that it was against the teachings of God to thus mutilate the corpse. The inconsistency of this doctrine never seems to have occurred to the encouragers of the rack, the thumbscrew, the wheel, the pillory, the stocks, burning and every other diabolical means of inflicting pain and death. The only consistent part of this doctrine was the immunity obtained by the "holy" men themselves from the application of the torture laws.

In 1556 Caius published an "Account of the Sweating Sickness in England," this being his principal medical work, although he wrote numerous literary treatises. He died in 1573.

As we have already seen, anatomical science had not made much progress since the days of Galen. This, of course, was principally due to the great difficulty in making use of the cadaver, and what little had been gained was chiefly a result of the dissection of animals. As the field of investigation was such a limited one, there was little to do but follow slavishly along the lines marked out by the great physician of Pergamus. But the time arrived when the beaten paths in thought were being more and more departed from, and, as was the case in religion, so in medicine, numerous independent searchers after truth sprung up.

Thus we find that in the sixteenth century a man appeared who was great enough to break away from the established teaching in anatomy, and gave the subject its first real advance since the second or third century.

This man was Andreas Vesalius of Brussels, who was born December 31, 1514. He was the great-great-grandson, great-grandson and grandson of a physician, each having been among the leaders of his profession. He first attended school at Louvain, and later studied at Montpellier and Paris, at which places he was the pupil of Vidus Vidus. Benventuo Cellini, Winther and Jacob Sylvius (the discoverer of the fissure and aqueduct of Sylvius).

Upon his return to Louvain he succeeded in stealing a body from the gallows, and thus was enabled to make a thorough study of its anatomy. Shortly afterward he became an army surgeon, and found numerous opportunities to further these researches. At the early age of 23 he became professor of anatomy at Padua, and later taught at Pisa and Bologna.

His father had been the apothecary of a member of the family of Charles V, and this monarch, learning of the erudition of Vesalius, had him remove to Belgium, where he became the royal physician.

Vesalius, in his published work on anatomy, opposed the teachings of Galen, and thus brought down upon himself the enmity of his leading confreres. Among these was Bartholomew Eustachi, the discoverer of the Eustachian tube. The animosity created by this new work caused Charles V to request the Faculty of Salamanco to make an examination of it. They decided that the book was quite orthodox, and the matter was dropped for the time being. He then went to Basel, where he delivered a series of lectures and arranged for a second edition of his book. At this place he left a skeleton, which is yet to be seen in that city. After being called to Madrid by Philip II, where he became his physician, he suffered many persecutions from the clerical authorities, who imagined they saw in his teaching a violence to the church doctrines of immortality and resurrection. It is related of him that while dissecting the mistress of a priest he discovered incriminating evidence, and in order to discredit the great investigator it was

charged that signs of life could be observed in the Spanish woman while the operation was going on.

Becoming disheartened by the repeated persecutions, he attempted a journey to Jerusalem, during which he narrowly escaped death by shipwreck. As a result of an injury thus received he died en route home, upon the Island of Zante, October 2, 1564, just as he had been honorably reinstated as professor at Padua.

Contemporary with Vesalius was Gabriele Fallopius. He was born in Modena in 1523, and studied at Padua. He served consecutively as professor at Ferrara, Paris and Padua, and made numerous additions to the knowledge of anatomy. It is said that he did not hesitate to poison an allotted condemned criminal for the sake of dissecting his corpse; and it is even declared that he had no compunction in repeating the dose if at first it did not succeed in giving him a subject.

Although his investigations lead him to make many discoveries, he is principally known as the describer of the tubes leading from the ovaries into the uterus. He died in 1562.

Another character worthy of brief mention is Thomas Dover, to whom we are indebted for the well-known and much-used Dover's Powder. He was born in 1660 in England, and was brought prominently before the public during an epidemic. It was at this time that he originated his famous compound of opium and ipecacuanha. Dover was a strong advocate of the use of mercury, and was often referred to as the quicksilver doctor. Upon one occasion he administered as much as an ounce and a quarter of the crude drug daily to a patient. Notwithstanding his unusual success as a practitioner, he tired of the more or less prosaic life of a physician and joined a number of Bristol merchants in fitting out two vesels for privateering purposes in the South Seas. He himself commanded one of them as captain, and as a result of the expedition the snug sum of £170,000 was added to the company's coffers. Uncharitable chroniclers have charged that the expedition was principally conducted according to the rule of might making right, and what between the reprisals of the Spaniards and the booty obtained from the native Indians, the treasure was not of an altogether unimpeachable character. It was during this voyage that Dover touched at Juan Fernandez Island and there discovered the real Robinson Crusoe—Alexander Selkirk.

The Guide Book. A monthly journal devoted to nursing, etc. Philadelphia: Guide Book Publishing Co. $1 a year.

The Guide Book, a journal presumably devoted to nursing, public sanitation, safeguarding the fireside, is in reality an attack upon the present agitation for State Registration of Nurses. It is gotten up in good style—the print is bold and clear and the binding artistic, and those desiring the views of the antiregistrationists can get an excellent expostulation here.

IDEALS OF HEALTH IN TOWN AND COUNTRY.

By Charles O'Donovan, M.D.

[CONTINUED FROM AUGUST NUMBER.]

THAT typhoid fever is so prevalent with us in America is a crying shame and lasting disgrace. As true a fact as anything in medicine is this, that to develop typhoid some individual, who must be susceptible to the poison, must partake in some way of typhoid germs; and these germs are produced only in the body of a human being sick with typhoid, and escape from the infected body in the urine or evacuations from the bowels. It is not pleasant to think that we must eat or drink food or water contaminated by these excretions, but that is surely what has happened whenever a case of typhoid fever appears. There are many ways by which this can occur. Drinking water may be taken from wells or streams into which infected sewage flows; milk may be carried in cans washed with water from infected wells; vegetables or salads eaten raw may have been fertilized by infected material; cooked food may have been contaminated by flies alighting on it after having visited infected privy vaults. You see at once how easy the infection may be spread; but at the same time consider the source of the trouble; a man sick with typhoid. It would seem possible to stop it in the room of that man, and for that particular case such a possibility may become actual by properly and thoroughly sterilizing all of his discharges in ways well understood. But, unfortunately, there are many cases of typhoid of such mild character that they are not confined to bed, or even to the house, and these can readily spread the contagion; and again, in many cases the infection remains in a man for weeks and months after his complete recovery from the fever, and his discharges continue to be infectious. These are indeed dangers beyond our control, for they exist without recognition, sowing broadcast the seeds of their trouble. To prevent these dangers from becoming actualities, every effort should be made to sterilize thoroughly the discharges during the periods of illness and convalescence, while the patient is entirely under the control of the physician, and to be as sure as possible that nothing goes out of the sick room in condition to infect others; and after the invalid shall have regained his health to instruct him how best to avoid contaminating wells or watercourses by any of his discharges. This will, if carried out, go a long way toward checking typhoid in rural districts, but for towns and cities even more is necessary. These can escape only by competent supervision over the sources of their water and milk supplies, rigidly and unceasingly applied, and such local inspection and education of cases already in existence as has been mentioned in connection with rural districts. It may be necessary at times to boil water and milk, and to abstain from eating salads or un-

cooked vegetables raised in gardens fertilized with sewage; it may even be necessary to install filtration for all drinking water where this cannot be obtained except from streams already polluted. But by faithful and constant work of city and county health officers, working in unison, and with sufficient authority to produce results, it is easily possible to banish typhoid fever from the list of existing diseases. Will this be done? I cannot say; but no physician will deny its possibility. In many countries of Europe, much more densely peopled than our rural districts, this result has been obtained through the strong hand of a paternal government aided and directed by competent medical advisers. With us, we get just what we wish. If we wish to drink water or milk polluted by filth unmentionable, and sicken or die with typhoid, we are at liberty to do so. If, on the other hand, we wish to eat and drink what is clean and uncontaminated, we must bestir ourselves for our own protection. The problem of typhoid is not a mystery in any sense of the word, but a question solely of energy or apathy. The means of abating this filthy, deadly nuisance are in our own hands, the leaders are ready to direct the work, the fatal delay exists among those who are to be the sufferers and are too lazy to awaken from their slothful dreams. Could they be allowed to steep themselves in the mire of ignorance and inertia till they reaped their own reward, justice would seem to be fulfilled; but, unfortunately, this disease does not confine itself to those who deserve punishment, but spreads abroad from the careless to those whose homes and habits are spotlessly clean. In this, typhoid differs from those twin terrors of darkness, syphilis and gonorrhea. Of them it is difficult to say which is worse; but of each we know the specific cause and means of acquisition. They are diseases not frequently discussed in public, because false modesty decrees that sexual relations shall be discussed publicly nowhere, except on the stage, and, as a result, the physiology and pathology of these matters must be learned surreptitiously. What monumental folly! One may learn how to eat, to dress, to talk, to entertain, to do a thousand things, even how best to be agreeable to the opposite sex and so provide for the propagation of the species and continuation of the human race, but of the physiology of sexual relations one must learn as little as possible, and its pathology must be absolutely ignored. Unfortunately there is such pathology, which may be ignored, but which exists notwithstanding, and leads to terrible consequences. The time has come when light should be turned upon this cesspool and some effort be made to clean its slimy depths. That self-constituted teachers should be left to instruct our adolescents as to the meaning of their newly-awakened impulses would be unthinkable were it not the common practice of mankind. The result is almost invariably the establishment of morbid or vicious ideas in the youthful mind in relation to these matters. As the proper instructors seem to shirk their duty, it is natural that the pupils accept these ideas as something mysterious and hidden, so that what is learned improperly is rarely, or never, scrutinized by those capable

of giving good advice, and what should be natural and healthy is believed to be vicious but alluring, and leads to improper experimentation, too frequently followed by disaster. With the moral aspect of this subject I do not deal at present, but just as moral obliquity may readily be acquired, so, too, actual physical harm frequently occurs. Nor does it stop here. Both gonorrhea and syphilis are diseases essentially chronic in nature, and each is extremely contagious. It would shock you if I should dilate upon the possible effects of these diseases on the human organism; let us leave that discussion to the medical societies; but I am well within the bounds of truth when I say that more suffering is caused by them than by tuberculosis and typhoid fever combined. And we, the fathers and mothers and physicians of Baltimore, are in very large measure to blame for much of this. We have conspired together, under the leadership and domination of that villainous old harridan, Mrs. Grundy, to keep our children and our young patients in ignorance of what vitally concerns them, using as an argument that we ourselves were raised under the same rule and have thriven, but forgetting the thousands, many of them our own close personal friends, perhaps relations, who fell through that very ignorance into the pitfalls that surround the young and have paid for their ignorance by suffering and death. Let us tell our young people that natural impulses have been implanted in them for a distinct and well-recognized purpose; let us lead them to understand that procreation and perpetuation of species is going on everywhere; that the same organic union and method is used by nature with multitudinous diversities in plant and animal life; that nothing is more common or necessary; that there is nothing inherently improper in sexual relations, but that our ideas and rules of morality rest upon foundations sufficiently strong to justify our strict compliance with them. Divine precept, as well as human experience, teaches only too truly that "the wages of sin is death." One sees but too often in the hospital wards the evidence of the truth of this dictum. How fortunate it would be if this punishment fell always or only on the guilty party. The chronic nature of these diseases leads often to the infection of the innocent in various ways. The friend who drinks from an infected cup, the sister who kisses a brother about to travel, the wife who suffers from obscure illness acquired innocently, the babe who dies unborn or whose short life ends as the result of a parent's sin—each of these is guiltless of any fault, but suffers the consequences of another's crime. I believe that this will be the next great movement begun and carried forward under the auspices and leadership of physicians. God knows the field is ripe. Already a nucleus of such a campaign has been formed in Baltimore, co-operating with similar societies in other American and foreign cities, but it has only begun. Governmental or civic control of this question has been tried repeatedly and has invariably failed. We must approach it from the side of the individual. I do not think it possible to stamp it out. Vicious people will always exist, and those who pander to

vice will propagate the seeds of these diseases, probably forever; but there exists no reason why every boy should be allowed ignorantly to risk his health and bring disease upon himself and those about him. Let the scaly body and poisoned talons be seen as well as the fair face of the fatal siren; then he must indeed be vicious who shall fail to make the proper choice. This matter is in the hands of a very enthusiastic committee of the Medical and Chirurgical Faculty, which is organizing an active campaign of instruction along these lines, and is prepared to furnish lecturers or instructors thoroughly capable of handling this matter whenever called upon. A number of lectures have been given already before certain clubs and other organizations, which have proven to be very interesting and which we feel will be productive of immense good. We do not propose to attack the evil from the moral side, except incidentally, but to show, as we can show very conclusively, that the physical and economic aspects of the results of immorality are so appalling that any sane man must shun this sin instinctively.

Another great work that must be undertaken by workers for public health is the protection of our food supplies. That we are, as a people, at last awakening to the need of some supervision over what we eat and drink is shown by the various national and local pure-food laws. No one will say that these have come too soon, but many will question their execution. Of what use is any law, no matter how excellent, unless it be administered faithfully and energetically. In nothing is this more important than in the effort that all intelligent physicians are making to protect our milk supplies. Many of you must remember the milk exhibition that was held last year in this building, which was visited by thousands of citizens of Maryland, who learned there many things about milk that they had not known previously, some of which were not agreeable. The milk problem is an ever-present one. The number of babies that sicken and die from impure milk in any given town can be used as an excellent test of the value of the local health officers. Are we willing to sacrifice our children to a modern Moloch called Politics? What has politics to do with the death rate of milk-fed babies? Everything. Where capacity, honesty and efficiency stand as nothing against politics in the selection of health wardens, there will filthy milk be sold, and there will helpless babes be wantonly destroyed. But where the people shake off their fatal lethargy and insist, as they should very properly, that none but capable and honest men shall have charge of public health matters, there will be found always a lessened rate of infantile mortality. It is unnecessary to argue the wherefore of this. Such is the selfish greed of the various producers, carriers of and dealers in milk, which is a food most capable of contamination, that its progress from the cow to the child must be traced and safeguarded at every step. It is a necessary article of food to many babies; they cannot exist without it; for them there is no

substitute. In their name and for their sake we plead for every means to insure its purity.

With the enormous influx of foreigners we have beheld the growth of modern cities, in which land has become progressively so valuable that buildings have trespassed more and more upon the sources of light and air. This has developed the question of house hygiene and sanitation, which becomes every day more important. With us in Baltimore the tenement-house has never been popular, and many here tonight ignorantly think that no such thing exists for us. Let the district nurse or the settlement worker be called upon, and we should soon learn that there are slums in our central districts that are quite of the standard variety, and that the problem of light and ventilation, though less acute than in more crowded cities, exists in many parts of Baltimore. Our negro population is woefully deficient in this respect; they seem to shun the light, and their inability to stand cold makes it difficult to teach them the necessity of ventilation. Ocular demonstration of the truth of these remarks was given in this hall last Friday night at the joint meeting of the Society for the Prevention of Tuberculosis and the Playground Association. Some of the pictures shown there were most instructive and offered sufficient evidence of the need of greater attention to the tremendous problem of housing the poor. This is to my mind a subject for sanitary prophylaxis of the highest order, one that should be worked out conjointly by physicians, sanitary engineers, architects and clergymen, because each of these has special interest in the matter, and through the work of each can come the final improvement of this submerged class.

I am one who thinks that something can be done through medical instruction and co-operation to alleviate the terrible curse of drink. It is useless for us to shut our eyes to the facts in this matter. Repressive legislation has been and is being tried in many localities, with pronounced success or utter failure, according to the beliefs of those who favor or wish to discredit it. With such legislation medical men as a body prefer not to meddle, because amongst themselves they differ, as do so many other well-meaning citizens, some believing in the utmost rigor of prohibition and others in the sanctity of personal liberty. To me it seems better that we should systematically but sympathetically endeavor to educate those that we may be able to reach as to the evils that in most people follow indulgence in drink, and how very necessary it is to practice moderation or sobriety. There is a very large field here for active and enthusiastic effort along strictly medical lines without having recourse to exaggerated statistics or hysterical overelaboration of harrowing details. It has been my experience to find that results attained solely through emotional outbursts are seldom permanent. While cold reason may be a slower process, the results are finally more lasting. If physicians could be more generally enlisted in these efforts, I should look for much improvement.

Ladies and gentlemen, these are a few of the many problems that are before us. In my contact with my professional brethren, from what I hear in my consulting-room and from my reading in the daily papers, I infer that the public has at length determined to take the matter in its own hands and insist upon higher ideals of health. There is ample room for such a movement; the wonder is that is has just begun to be felt. Here and there farsighted physicians have been teaching and preaching this very matter for years; now it is not confined to a few, but so many of us have worked at it that the great public has awakened, and when the people awaken and want anything, it is sure to happen. The first evidence of any popular movement is to be found always in the newspapers, whose editors, superbly trained men, feel the pulse of the people, just like doctors, and foresee things impending long before they actually occur. Wars, famines, panics, prosperity, rascality in public or private life, and a thousand things that go to make up history, are discovered or predicted by the press long before any ordinary individual dares to dream of such things. And when this hundred-eyed Argus discerns a strong current in any direction instantly it launches upon the swelling tide. See now the attitude of the press. One cannot pick up a paper without reading great notices of this or that matter pertaining to health. One day it is tuberculosis; another, the management of naval hospitals; another, pure-food laws; another, typhoid fever, and so it goes, showing that the press appreciates that the people are awake and alert to anything that will make them live longer or better. And why should we not live longer? Why should we have in our midst such shameful diseases as tuberculosis or typhoid fever or smallpox or diphtheria, or any other of the avoidable diseases? Simply and solely because we want them. Were this not so we could very soon drive them out. It will take some effort, and it will cost some money to do this; but I think the effort is well worth making, and it would be most unwise not to spend the money if by these means the sorrow and suffering of sickness and death could be so greatly lessened. The first step in this campaign, as in all campaigns, must be to provide a suitable head to the army of fighters. A board of strategy must direct this, as any other succesful war; men who shall be capable from study and experience to outline the methods of attack and direct the assaults. These men must be provided with records, with books and tables of statistics which tell of what has been done elsewhere by experts in similar work; they must have laboratories and men trained to work in them, from whom frequent reports shall appear to enlighten the public and show the progress made; they must have under their direction specialized boards or committees who shall take up certain divisions of this great work, for it is too great for any one director, and these boards must have rooms to meet in, and to store their own records and statistics in such form as to be within easy reach and readily available; they must have also some great central place where from time to time the people can be gathered to hear from the lips of some eminent

leader words that will stir their hearts with joy born of the news of progress made in controlling disease. In short, this means that there should be in this city, because it is central and most accessible, a great building which can serve as an institution for the promotion of public health. Naturally, this should be under the control of the physicians of the State, as they are those who have given their lives to this cause and are immediately available, and in it should beat the strong heart of this movement, sending thence gigantic impulses in ever-widening circles to the mountains and the sea. In this building would originate every good movement in the directions that I have pointed out, and to it should the people look for advice and leadership in all questions of public health. This is not a wild dream. Such a project is already afoot, backed by all of the authority of the Medical and Chirurgical Faculty of Maryland, over 1000 doctors, laboring ceaselessly for the health and welfare of the poor, the weak and the suffering in every county of the State, as well as here in Baltimore. We ask you to help us to help you. We are fully alive to the possibilities of the occasion. We are your leaders in the fight against tuberculosis. We know more about its ravages than you do. We are prepared to continue this and every other battle for your relief from ill-health and suffering if only we have the means at our disposal. Will you let this movement die out, or will you accept us and what we offer? If you think, as I do, that the harvest is ripe for a greater effort in these directions, that the soldiers in the ranks should be continued and encouraged, that we as leaders in this fight with sickness and death are worthy to be followed, show your confidence in us by upholding and fostering the effort that we are making to provide for Maryland an institution devoted solely to the promotion of public health.

Diseases of the Eye. By Charles H. May. New York: William Wood & Co. Cloth. 1909. $2 net.

The sixth edition of May's Manual has been thoroughly revised and many additions made, amongst which may be noted thorough but concise treatment of the topics, transillumination, the conjunctival tuberculin test and cerebral decompression. This volume upholds the high character of the previous editions, and the character and brevity of the work render it especially useful to the student and general practitioner.

Diseases of the Vermiform Appendix. By Howard A. Kelly, M.D. J. B. Lippincott Co.

This is the most elaborate and eminently practicable work that has as yet appeared on this subject. The author believes that a hereditary constitutional predisposition to appendicitis may exist, and also that there is no causative relation between movable kidney and appendicitis. An exceptionally good chapter treats of appendicitis in the cause of typhoid fever.

Current Literature.

REVIEW IN GYNECOLOGY AND OBSTETRICS.

Under the Supervision of A. Samuels, M.D., Baltimore.

THE RADICAL OPERATION FOR CARCINOMA OF THE CERVIX.

W. A. Freund in 1878 was the first to advocate abdominal hysterectomy for cancer of the uterus, but it is to Reis of Chicago that we owe the development of the radical operation as it is practiced today. Reis in 1895 satisfied himself and others by operating on dogs and cadavers that it would be possible to remove the uterus and its appendages, the cellular tissue of the pelvis and the lymphatic glands as far as the bifurcation of common iliac without killing the patient.

Clark in 1896 (*Johns Hopkins Bulletin,* July and February, 1895-1896) puts this suggestion into practice on a live woman at the Johns Hopkins Hospital, and his example was quickly followed by others, among whom may be mentioned Weder, Rumpf, Mackenrodt and Wertheim. It is, however, to Wertheim that we owe the present position of this operation, because he has performed it as a routine one for a much longer period and in far greater numbers than any other surgeon. His results are the most interesting we have.

Wertheim's radical operation for cancer of the cervix uteri consists in removal through an abdominal incision of the uterus and its appendages. By means of a clamp forceps sufficient vagina is clamped across well below the level of the growth to form a bag in which the diseased cervix is encapsuled before it is divided. In addition, the parametrium and as much connective tissue of the pelvis as possible is dissected out together with any regional glands which may be enlarged.

The performance of Wertheim's operation fulfills a certain standard from which it is impossible for any one to escape, and the results of various operators can thus be satisfactorily compared. The advantages of the radical operation over simple vaginal hysterectomy must be discussed from three standpionts:

(1) Primary mortality.
(2) Percentage of operability.
(3) Percentage of cures.

Primary Mortality. Comyns Berkeley (*Journal of Obstetrics and Gynecology of the British Empire,* No. 3, Vol. xv, 1909) in his article on Wertheim's panhysterectomy for carcinoma of the cervix has investigated these three points thoroughly and carefully, from which the following is taken. The primary mortality of Wertheim's operation is undoubtedly high. Wertheim's total mortality is 15.2; Döderlein, in 715 operations by the radical abdominal method, reports 14.8; Schindlar of Graz reports a mortality of 9 per cent. The primary mortality in 313 cases collected by Berkeley is 18.5. Shauta (Die Erwieterte Vaginale Totalextirpation des Uterus bei Kollum-Karzinoma. *Verlag von Josef*

Sagar Wien., 1908) gives the following statistics of primary mortality in vaginal hysterectomy: Shauta, 10.3; Gusserow, 14.4; Olshausen, 12.7; Fritsch, 6.6; Döderlein in 4368 cases of vaginal hysterectomy had a mortality of 9.1; Hirschman, from 1241 cases, 8.8; Leopold, 5.7. Hence it can be seen that the radical abdominal operation has a higher primary mortality, but its increased mortality is no doubt due to the abdominal operation being performed on much more advanced and serious cases than those which have had vaginal hysterectomy. It is unfair, therefore, to compare the primary mortality of the radical abdominal operation with that of vaginal hysterectomy, as the former may be performed on the more advanced cases, while the latter can only be performed in the early stages.

Percentage of Operability. The percentage of operability is greatly increased by the radical abdominal operation because one is able to separate the bladder, rectum and ureter from the growth without much risk of injury, whereas in simple vaginal hysterectomy in a large number of cases this is impossible.

Spencer remarks that the percentage of operability can be made as large as any operator chooses if he operates on cases in which there is no chance of a cure. It seems to be agreed by all that if only early cases are chosen the percentage of cures will be much greater and that of inoperability much less. Still it is quite evident that most operators have not limited themselves in this way, with the result that many women have been cured whose chances from a clinical examination might have been thought to be hopeless.

According to Döderlein, the average percentage of operability of 10 operators by the radical abdominal method was 68. Wertheim has operated on 40 per cent. of his cases; Schindlar, 46 per cent. The average percentage of operability for vaginal hysterectomy is much smaller. Gusserow, Olshausen, Kaltenbach, Leopold, Kuestner and Döderlein report the percentage of operability 31; that of Chrobak and Shauta as 15, while that of Waldstein as 14.7, the latter three being more in accord with the general statistics of 12.

Percentage of Cures. It is impossible to estimate accurately the percentage of cures in this country, because of the difficulty in tracing hospital patients. The German method of estimating cures is a strict one, including as it does Winter's method, the number of cases operated upon added to the number of patients remaining well, the result divided by 100 being called the absolute cure for the number of cases taken. Taking five years as the period after which the patient may be said to be cured as far as her original disease goes. Wertheim has 138 women alive operated upon more than five years ago, which equals a percentage cure of 62. Polosson has 60 per cent. free of recurrence after five years; Machenrodt, 45 per cent.; Bumm, 30 per cent. When we compare this with the percentage of cures by vaginal hysterectomy, a very large diminution is at once noticeable. Jacobs has 1.2; Gusserow, 2.5; Olshausen, 6.6; Kuestner, 9.2; Kaltenback, 5.2; Leopold, 8.2 of patients living after five years, so that apparently

not one-tenth of the cases operated upon by vaginal hysterectomy are alive after this period. Fromer had 35.6 recurrences in the first year; Zweifel, 69.8 in the first six months, and Winter out of 148 cases had 115 recurring after the first year. Waldstein out of 274 cases had only four living after five years.

In comparison with vaginal hysterectomy, the percentage of cures by Wertheim's and other abdominal operations is due entirely to two factors:

(a) The thorough removal of the parametrium and the adjacent tissues.

(b) The means taken for preventing any part of the wound being contaminated by the growth.

(a) The results of the pathological investigation of the glands and parametrium extending over a large number of cases, including the microscopical examination of some thousands of cases, prove conclusively that the parametrium should always be removed. It is impossible to diagnose clinically the real condition of the glands and parametrium. A hard parametrium may contain no cancer, whereas a soft one may be full of cancer. In 22.5 per cent. of Wertheim's cases, although the parametrium felt quite soft, a marked cancerous infection had taken place, and in 14 per cent. where the parametrium felt quite hard no infection had occurred, the induration being due to inflammatory reaction. Kundrat likewise found the parametrium infected in 16 per cent. of his cases that clinically appeared to be free from infection. Shauta found in 69 per cent. of his cases that the parametrium was infected; Baisch, in 50 per cent.

These facts do not carry much weight with those who favor vaginal hysterectomy, because they argue that if on clinical examination the parametrium is found to be involved, no method of removal is satisfactory, whereas if the uterus is quite mobile and the parametrium is felt to be soft, vaginal hysterectomy holds out as good a chance of a cure as any other operation. The pathological findings have proven this opinion to be untenable.

(b) The most frequent recurrence of cancer after the removal of the diseased cervix is nearly always local, due to cell-implantation on the cut edges of the wound or from an imperfect removal of the parametrium.

Winter reports recurrence in the vaginal scar in 54 out of 58 cases; Mangiagalli, in 114 out of 115. A number of operators have had similar experiences. With the Wertheim's operation local recurrence is a rarity.

The pathological findings of the glands removed from the living, as well as those removed at post-mortem, are interesting and raises a question whether or not one should increase the dangers of the operation by systematically removing all the glands that seem to be infected. The same may be said here concerning the glands as what has been said of the parametrium, that we have no certain means of clinically diagnosing glands that are cancerous from those that are not. Döderlein reports 18 cases with enlarged glands; in 11 of these cases the glands showed no evidences of

cancer. Shauta examined 1182 glands in 160,000 serial sections from glands removed at post-mortem from patients who had died from very advanced cancer, and found that 57.7 per cent. were cancerous. From operative statistics Döderlein gives from a list of 10 operators whose average percentage is 39.9. From these findings it would seem to be the proper procedure to systematically remove all the glands.

However, Veit, Pankow, Wertheim and others are of the opinion that routine extirpation of the glands does not help the case. Wertheim wisely argues that since in only one-third of the cases are the glands involved, to remove these indiscriminately in every case is injuring the other two-thirds. The occasional cure of a patient does not counterbalance the increased mortality due to routine extirpation. The removal of the glands is, of course, to prevent recurrence, but recurrence in the glands is rare, as Shauta argues that when one speaks of glandular recurrence one can only consider it as a real glandular recurrence when there is no local recurrence, for in the latter condition it may very well be due to a local state. Time and again it has been demonstrated that after simple vaginal hysterectomy the recurrence is nearly always in the scar and very rarely in the glands. This statement is proven clinically by the fact that some patients live as long as two or three years after vaginal hysterectomy before recurrence. In 35 recurrences Shauta only found two in the glands, and in 12 recurrences Franz found one. Whether recurrence in the glands occurs or does not occur, we do know that the glands are infected in a certain per cent. of cases. It seems to me that enlarged glands should be systematically removed when the life of the patient is not unnecessarily imperiled or when no real time is lost in their removal.

Complications of the Abdominal Operation. The most frequent complications are wounds to the bladder and rectum. The bladder may be accidentally open in separating it from the anterior vaginal wall. This is especially liable to happen when the bladder and the anterior vaginal wall have become adherent from extension of the growth. The wound should be immediately sutured and provisions made for drainage through the vagina in case of leakage. If union of the bladder walls fails, a secondary operation becomes necessary to close the fistula. Bumm in 108 cases injured the bladder five times; two healed from fistula; three died. Döderlein collected from a large number of operators 1979 cases of simple vaginal hysterectomy and found the bladder was wounded 61 times. Wounds to the rectum are not frequent, but occur occasionally when separating it from the posterior wall. Sometimes from extension of the growth it may be necessary to resect a part of the rectum. In one of my cases from extensive involvement of the rectum an artificial anus became necessary. Clinically, the rectum in this case did not seem to be so extensively involved. Recurrence was early.

The ureter may be wounded during its necessary isolation, or caught in the ligation of the vessels, or its blood supply so inter-

fered with that necrosis follows. Wertheim in 458 cases had ureteral fistula to occur 24 times. He does not state what per cent. was due to injury and what to necrosis. In 291 collected cases ureteral fistula occurred in 19. The ureter was accidentally cut in five of these cases. In 15 cases the fistula closed spontaneously. Nephrectomy was necessary in two cases. Cystitis seems to occur rather more frequently than it should. The most probable cause of this is the handling of the bladder in separating it from the vaginal wall, which interferes with its blood supply. Wertheim states that cystitis occurred in nearly all of his cases.

Secondary hemorrhage in the radical abdominal route is rather rare. The commonest cause of death is shock and cardiac paresis, due to the severity of the operation. This must be anticipated in those patients whose health and powers of resistance have been lowered to a marked degre from hemorrhage, pain and the absorption of a certain amount of septic material. Sepsis and peritonitis carry off not a few.

2003 McCulloh street.

SOCIETY REPORT.

The fourth meeting of the Maryland Psychiatric Society was held on Wednesday, June 30, 1909, at the Maryland Asylum and Training School for Feeble-Minded at Owings Mills, the meeting being called to order by Dr. Keating after the closing exercises of the school, which had been witnessed by a majority of the members present. Dr. A. P. Herring moved that the reading of the minutes be omitted, which was carried. Dr. Joshua Hering then made an address on State Care of the Feeble-Minded, in the course of which he referred to a recent visit of inspection to the institutions for feeble-minded in Wisconsin. Dr. Keating being called away, Dr. C. G. Hill was asked to take the chair. Dr. Herring then made a few remarks on the Wisconsin system, and said that the Lunacy Commission would probably utilize the best of it in formulating plans for State Care of the Insane of Maryland. Dr. Spear suggested that in order to influence the Legislature favorably, it might be well to take the children of the institution to Annapolis, and General Stump stated that this had been done with a previous Legislature. Mr. Wheeler of the Board of City Charities said he was troubled to know what had best be done with the insane and feeble-minded of Bayview Asylum, but advocated enlarging the facilities of Rosewood. Dr. Keating then resumed the chair, and Dr. Hill spoke briefly of the history of Rosewood.

Judge Oscar Leser, as chairman of the committee of the Baltimore Bar Association, then spoke of the bill which his association intended presenting to the Legislature relative to expert witnesses, and was followed by Mr. William Reynolds, who spoke of the bill more in detail. Dr. Wilkins opposed the bill for many reasons, which he presented in detail, after which Mr. Reynolds, Judge Leser and Dr. Hill spoke. Dr. Spear moved that a committee of

three be appointed to confer with the committee of the Bar Association, which was carried. Dr. Dunton suggested that these committees consider the report of the St. Louis Jail Commission and a paper read at the last meeting of the American Medico-Psychological Association by Dr. John B. Chapin, to which Dr. Hill added the paper read by Dr. B. D. Evans at the same. The meeting then adjourned to a luncheon tendered by Dr. Keating. There were 32 present at the meeting. Dr. Keating later appointed Drs. Hill, Spear and Dunton on the above committee.

W. R. DUNTON, JR., Secretary.

THE CARE OF EPILEPTICS.

A CONTRIBUTION.

AT this time, when Dr. William P. Spratling, for so many years the medical superintendent of Craig Colony for Epileptics in New York State, and permanent editor of "Transactions of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics," has removed to Baltimore to assume the chair of Nervous Diseases in the College of Physicians and Surgeons, left vacant by the death of Dr. George H. Preston, it is proper that we should give a brief review of the work which has been done for epileptics in America, and especially in Maryland.

It is estimated that one in every 500 persons is epileptic; some place the percentage still higher. This information is a surprise to most physicians, as it is customary to believe that epilepsy is quite a rare condition. It is evident, therefore, that any adequate provision made for the care and treatment of epileptics must be upon a scale far beyond the capacity of any ordinary private institution, and for this reason State after State is undertaking the work, making large appropriations and building large and finely-equipped sanitariums in the midst of extensive farms, where the occupation and employment which are so beneficient in their influence on the diseased may be afforded in fullest extent to the patients.

The problem of the care of the sane epileptic can never be solved by the plan adopted in so many States of caring for these patients in connection with the State insane asylum. In the first place, it it too cruel to assign a sane epileptic to an institution for the insane, and as long as this is the only provision made for him, the self-respecting epileptic will stay at home. In the second place, there is no legal method in America by which an epileptic who is not insane can be placed under State control, except by his own voluntary act and for so long a time as he chooses to submit to it. While it is certain that the needs of the sane epileptic can never be met by sanitariums forming a part of an establishment for the care of the insane, it is at the same time true that treatment in especial institutions, and particularly in farm colonies, is the best and only proper treatment for this class of patients.

New York State appears to be in the lead in the care of epilep-

—*Courtesy of the King's Daughters.*

SILVER CROSS HOME.

tics. In its great Craig Colony at Sonyea are gathered already over a thousand patients, more, it is confessed, than can be accommodated in all of the institutions for sane epileptics now existing in England. Moreover, in this colony, under the able care of Dr. Spratling, more thorough work in the investigation of the disease appears to have been done than in any other place. As a result of the studies of Dr. Spratling and of those who have collaborated under him there, especially of Dr. Munson, who is in charge of the laboratory, the conclusion has been reached that although convulsions of an epileptic nature are in some cases associated with various organic diseases and lesions, essential epilepsy is not dependent upon any pathological process as yet discovered. As Dr. Spratling says: "For more than 10 years the conviction has been growing in my mind that we will not ultimately find the real lesion of epilepsy in the dead body. Its cause must be sought rather in the reactions of the living body to a lesion or loss of function, the body being inherently weak at some point. In the laboratory study has been recently devoted to living, vitalizing secretions and tissues."

"An epileptic convulsion," says Dr. Munson, "is nothing more or less than a reaction of a weak living body at some feeble point to a poison or poisons as yet unknown to us." Pathological work has not been neglected, and at Sonyea there is at present a collection of about 100 brains of epileptics preserved for the study of coming years.

That epilepsy is a curable disease is shown by the report of a German colony of epileptics, which announces that in 40 years over 500 patients have been discharged as recovered.

While Maryland has not yet officially recognized in any sufficient way the needs of sane epileptics, it is interesting to note the efforts of church people throughout the State on their behalf. In 1892 at a quarterly meeting of the King's Daughters and Sons of Maryland the great need of a home for epileptics was very earnestly presented. In 1894 an old country home, beautifully situated on a hill "commanding a lovely view of the Susquehanna river," close to the Tome Institute at Port Deposit, was donated to them for this purpose. Here the Silver Cross Home for Epileptics was established for female patients from childhood to old age. This very humble establishment has grown slowly but steadily, and now has a capacity for about 30 patients. The Home is supported by subscriptions from more than 25 "circles" throughout the State, with occasional donations from the Legislature. Every effort is made to apply the most recent methods to the treatment of the patients; these, as in other institutions, consist mainly of occupation, dieting and general oversight of health. Very little medicine is used. We are told that "as a rule all the patients improve very much, both mentally and physically. The quiet, regular way of living, good food and constant employment does a great deal for them, and they are wonderfully happy and contented." The finances of this institution are in good condition, and extensive improvements are planned for the near future.

At Mount Hope a number of epileptics receive care, although the institution is not well situated for them. Dr. Hill has come to practically the same conclusion as other observers; namely, that the cause of the attacks must be sought in the living patient, and not *post mortem;* he has observed in some cases a gradual rise of the blood pressure for several days before the attacks, and a fall immediately following them. That this fall is not due to the muscular contractions of the fit is indicated by the fact that it occurs after *petit mal* as well as after *grand mal.* He has found also in some

—Courtesy of the King's Daughters.

PATIENTS' SITTING-ROOM.

cases a very remarkable increase of the ammonia in urinalysis for some time previous to the attack. In a number of instances he has been able to ward off attacks by taking measures to correct these premonitory indications. He believes that starches and sugar, rather than proteids, are injurious in the diet of the epileptic, and cites a number of cases in which the patients improved as long as starches were eliminated from the diet, and again and again relapsed on return to such food.

In the Springfield State Hospital a special cottage is assigned to the insane epileptics. In the last biennial report we do not find any reference to special observation made on this disease. We are impressed, however, with one significant remark bearing upon the prevention of it; namely, that about one-third of the living children of alcoholic parents suffer from epilepsy.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D. *Editor*

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BALTIMORE, SEPTEMBER, 1909

PITUITARY TUMOR.

Comparatively little is known of the physiological action of the pineal gland. Some observers believe it rudimentary and unimportant, whilst others are of the opinion that it is essential to life. By observation upon the cadaver, by experimentation upon the animal and by clinical findings during the past few years it has been proven that metabolic changes are invariably associated with tumors and parenchymatous changes of the pituitary body, in one group an overdevelopment of the tissues, gigantism, supposedly due to an oversecretion, and in another an underdevelopment, with a peculiar fatty condition, and especially infantilism of the genitals, with which is associated impotence in man and amenorrhea in woman.

In the former group diagnosis is self-evident; it is in the latter that Church (*J. A. M. A.*, July 10, 1909), besides the ordinary signs of brain tumor, lays down the following as cardinal symptoms, enlargement of the sella turcica, as manifested by the X-ray, shunting of both physical and sectual development, owing to pressure of tumor upon the optic chiasm, with impairment of vision as a late development.

If, as claimed by competent experimenters (Cushing, Crowe), dogs invariably perish after its extirpation, naturally the question arises if diseased in man, is its removal advisable? Horsley, von Eiselberg, Hochenegg, Cushing and others have solved this problem in the human by successfully removing pineal tumors with recovery of the patient. This different result in dog and man is explainable upon the assumption that the animal is overwhelmed by the removal of a healthy functionating gland, whereas in man

merely diseased tissue is removed and other glands are supposed to have taken upon themselves a compensatory action, or the body has become gradually habituated to the change.

Two methods of approach for its removal are open—either through the nasal passages or from the lateral aspects of the cranium; the latter is apparently the most popular, although the dura is opened and the brain substance as a result of retraction often suffers considerable traumatism. By the nasal route pituitary tumors are extradural. The interesting features are not that the pituitary gland can be reached with comparative ease, but the early recognizability of disease of the hypophysis and removal of tumors of the gland without death to the patient.

THE PRESENT STATUS OF THE X-RAY.

The results obtained by the X-ray in superficial epithelioma, especially facial, are certainly marvelous, numberless inoperable cases having been absolutely cured. It is a dangerous agent, however, and should be handled only by an expert, great damage having resulted from its application in the hands of the novice. Every inoperable case of cutaneous epithelioma should be given the advantage of its use. In deep-seated operable malignancy it has proven worthless, and valuable time should not be wasted by its application. These cases, as formerly, should be delegated to the realms of surgery. Beneficial results follow its post-operative application, overlooked foci being destroyed by its application. Deep-seated inoperable malignancy should be given the benefit of its application with the idea of the relief of pain and a possible retardation of the growth, not with the idea of an ultimate cure.

Remarkable results have followed its use in ringworm of the scalp. The cure is not effected by the direct destruction of the tinea, an epilation following the application of the ray, with a consequent destruction of the food of the tinea, and thus its indirect destruction by starvation. Brilliant results have followed its use in lupus, and it is extremely useful in stubborn cases of psoriasis. Remarkable cures of other hopeless conditions have been reported, but generally speaking, therapeutically the field of the X-ray is exceedingly limited.

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, June 22, 23, 24 and 25, 1909.

No.	College of Graduation.	Anatomy	Surgery	Pathology	Obstetrics	Practice	Chemistry	Materia Medica	Therapeutics	Physiology	Total	Average
1	Baltimore Medical, '06	..	..	69	..	..	..	..	..	50	...	..
2	Maryland Medical, '08	..	..	75	75	75	..	..	..	..	...	..
3	College of Physicians and Surgeons, N. Y., '88	Declined by Board.					..	..	..	..	...	..
4	Maryland Medical, '08	36	..	84	78	..	64	..	..	75	...	..
5	University of South, '04	57	..	75	..	..	..	..	..	..	...	..
6	Johns Hopkins, '08	90	85	86	91	83	82	90	77	86	770	86
7	Baltimore Medical, '09	49	90	68	92	75	50	40	75	75	614	68
8	University of South, '08	55	..	75	..	..	75	75	..	75	...	..
9	Woman's Medical, Baltimore, '08	78	90	86	90	77	75	95	80	90	761	85
10	University of Maryland, '09	91	95	75	90	85	93	87	87	90	793	88
11	University of Maryland	97	..	..	..	..	73	75	..	95	...	..
12	University of Maryland	69	..	..	..	..	64	68	..	75	...	..
13	College of Physicians and Surgeons, Balto., '08	81	90	80	80	78	75	80	83	80	727	81
14	Baltimore Medical, '09	78	80	75	79	77	41	80	85	80	675	75
15	Maryland Medical, '09	71	85	68	70	57	61	80	78	75	645	72
16	University of Maryland, '09	86	94	80	91	75	86	82	76	85	755	84
17	College of Physicians and Surgeons, Balto., '09	75	75	75	85	75	79	77	75	95	711	79
18	University of Maryland, '09	84	94	94	94	88	83	73	81	91	782	87
19	University of Maryland	96	..	..	..	..	85	88	..	85	...	..
20	College of Physicians and Surgeons, Balto., '09	85	95	78	87	75	92	90	83	96	781	87
21	University of Maryland, '09	75	80	92	80	78	64	76	84	75	704	78
22	University of South, '04	..	..	..	..	..	..	..	..	..	...	..
23	Howard University, '08	90	85	64	89	78	80	75	84	85	730	81
24	University of Maryland	89	..	..	..	..	79	71	..	80	...	..
25	Baltimore Medical, '09	80	75	77	75	75	41	97	80	75	675	75
26	College of Physicians and Surgeons, Balto., '09	95	85	84	94	86	76	86	80	92	778	86
27	Leonard Medical, '09	79	75	78	84	66	75	75	70	80	682	76
28	University of Maryland	88	..	..	..	..	79	90	..	90	...	..
29	University of Maryland	91	..	..	..	..	75	77	..	66	...	..
30	Johns Hopkins, '09	..	..	..	..	..	..	..	..	..	...	..
31	University of Maryland, '09	75	80	79	85	60	70	67	72	87	675	75
32	Johns Hopkins, '08	83	90	88	96	97	85	78	87	90	794	88
33	Johns Hopkins, '05	86	100	93	93	78	75	84	88	96	793	88
34	Johns Hopkins, '06	94	98	90	96	83	85	85	82	95	808	90
35	Howard University, '08	..	..	75	75	75	75	..	..	..	....	..
36	College of Physicians and Surgeons, Balto., '09	83	95	94	84	91	83	80	85	100	795	88
37	University of Maryland	80	..	..	..	..	75	70	..	75	...	..
38	Jefferson Medical, '09	..	..	..	..	..	..	..	..	..	...	..
39	Maryland Medical, '09	82	92	79	79	75	79	82	75	80	723	80
40	Maryland Medical, '05	..	..	75	..	..	..	..	..	..	...	..
41	Maryland University, '09	65	80	71	79	65	75	75	89	28	627	70
42	University of Maryland, '09	87	95	78	95	76	83	95	84	95	788	88
43	University of Maryland, '09	93	85	92	91	94	79	78	82	90	784	87
44	Maryland Medical, '09	80	98	77	89	79	83	75	81	80	742	82
45	University of Maryland, '09	88	95	95	90	85	90	80	79	95	797	89
46	Johns Hopkins, '09	91	90	88	75	85	79	80	83	85	756	84
47	University of Maryland, '09	85	95	84	85	70	82	90	80	70	741	82
48	University of Maryland, '09	89	90	87	85	77	87	90	82	95	782	87
49	University of Maryland, '09	66	90	84	87	75	73	75	86	90	726	81
50	Woman's Medical, Baltimore, '08	..	..	..	..	..	58	..	..	..	...	..
51	University of Maryland	75	..	..	..	..	80	75	..	75	...	..
52	College of Physicians and Surgeons, Balto., '09	80	85	94	95	83	75	80	84	90	766	85
53	Jefferson Medical, '09	86	98	81	84	77	79	75	78	90	748	83
54	University of Maryland, '08	..	..	78	..	..	81	80	75	..	...	..
55	College of Physicians and Surgeons, Balto., '09	84	95	76	79	91	82	80	78	78	743	83
56	Baltimore Medical, '09	93	85	90	78	81	95	89	81	88	780	87
57	University of Maryland, '09	92	96	97	88	83	91	89	95	90	821	91
58	Baltimore Medical, '09	39	80	65	75	64	50	75	75	68	591	66
59	University of Maryland, '08	..	..	81	..	56	68	..	78	75	...	..
60	University of Maryland, '09	84	95	89	93	85	70	86	83	70	755	84
61	Woman's Medical, Baltimore, '08	..	..	..	..	..	12	..	..	..	...	..
62	Maryland Medical, '09	77	95	75	80	83	76	90	84	83	743	83
63	College of Physicians and Surgeons, Balto., '07	75	..	75	..	75	75	75	..	..	...	..
64	University of Maryland, '09	52	84	76	69	55	65	69	65	85	620	69
65	University of Maryland, '09	71	95	75	75	75	60	80	75	75	681	76
66	University of Maryland, '09	76	92	83	92	79	80	75	67	75	719	80
67	Baltimore Medical, '09	67	80	81	94	80	72	75	77	75	701	78
68	Baltimore Medical, '09	87	80	88	88	92	83	84	78	85	765	85
69	University of Maryland	91	..	..	..	..	80	78	..	90	...	..
70	Woman's Medical, Baltimore, '09	83	60	66	79	72	71	80	76	75	662	74
71	College of Physicians and Surgeons, Balto., '09	86	95	85	90	89	81	95	78	92	791	88
72	Baltimore Medical, '09	75	85	78	96	78	69	79	80	87	727	81
73	Johns Hopkins, '09	80	95	83	95	95	80	88	89	95	800	89
74	Johns Hopkins, '04	83	96	83	95	79	68	75	78	90	747	83
75	Johns Hopkins, '09	87	85	89	97	86	78	67	75	85	749	83
76	Johns Hopkins, '04	75	98	88	98	90	73	80	79	98	779	87
77	Johns Hopkins, '09	68	80	85	88	77	76	75	76	75	700	78
78	University of Maryland	84	..	..	..	..	75	80	..	80	...	..
79	College of Physicians and Surgeons, Balto., '09	85	88	84	76	87	81	96	78	96	771	86
80	University of Maryland, '07	75	..	..	..	..	75	..	..	..	...	..

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, June 22, 23, 24 and 25, 1909.—(*Continued.*)

No.	College of Graduation.	Anatomy.	Surgery.	Pathology.	Obstetrics.	Practice.	Chemistry.	Materia Medica.	Therapeutics.	Physiology.	Total.	Average.
81	Johns Hopkins, '09	60	98	85	95	84	57	92	80	87	738	82
82	Maryland Medical, '07	57	..	49	72	..	81	..	70	..	...	..
83	Johns Hopkins, '09	62	90	80	78	75	62	87	75	88	697	77
84	Howard University, '09	79	90	82	82	75	77	70	66	75	696	77
85	Maryland Medical, '09	54	95	..	82	70	75	78	77	87	...	..
86	Baltimore Medical, '06	..	..	85	..	..	75	..	..	..	...	..
87	University of Maryland, '09	81	85	87	98	68	76	86	80	75	736	82
88	University of Pennsylvania, '09	78	85	80	85	79	76	80	78	85	726	81
89	University of Pennsylvania, '09	79	90	79	86	81	76	79	75	87	732	81
90	University of Pennsylvania, '09	72	95	86	80	87	85	85	77	95	762	85
91	College of Physicians and Surgeons, Balto., '09	..	..	..	..	..	..	..	..	..	...	..
92	College of Physicians and Surgeons, Balto., '09	..	..	..	..	..	..	..	..	..	...	..
93	Baltimore Medical, '09	61	78	81	96	77	55	78	69	80	675	75
94	Johns Hopkins	89	..	..	..	..	80	78	..	90	...	..
95	University of Maryland, '09	87	80	92	98	80	76	95	80	81	769	85
96	Maryland Medical, '09	81	75	75	82	77	55	86	82	94	707	79
97	George Washington University, '08	79	85	79	85	80	70	84	85	75	720	80
98	Howard University, '09	83	95	81	77	77	72	82	76	85	728	81
99	University of Maryland, '09	76	82	78	90	64	78	64	88	75	695	77
100	Medical Chirurgical, Philadelphia, '08	60	95	75	94	75	80	75	89	75	718	80
101	College of Physicians and Surgeons, Balto.	94	..	..	..	..	78	75	..	85	...	..
102	University of Pennsylvania, '09	91	90	87	93	92	81	84	89	96	803	89
104	University of Pennsylvania, '09	80	100	85	91	85	90	85	90	90	796	88
105	University of Pennsylvania, '09	70	95	77	78	86	81	83	82	85	737	82
106	Johns Hopkins, '09	70	85	85	92	75	67	70	76	90	710	79
107	University of Pennsylvania, 09	74	80	79	79	77	54	80	84	75	682	76
108	University of Maryland, '09	61	85	69	95	79	66	82	82	87	697	77
109	Maryland Medical, '09	..	..	..	..	..	..	..	..	..	...	..
110	University of Maryland, '09	..	..	..	..	..	..	..	..	..	...	..
111	University of Maryland, '09	79	85	90	98	75	80	80	80	87	754	84
112	Maryland Medical, '09	30	30	65	89	61	60	75	78	75	563	63
113	University of Pennsylvania, '08	89	85	77	80	83	80	86	79	75	734	82
114	Jefferson Medical, '08	79	80	70	73	79	76	75	85	66	683	76
115	University of Pennsylvania, '09	75	85	75	57	75	65	75	80	70	657	73
116	University of Pennsylvania, '09	80	90	82	82	86	72	87	79	75	733	81
117	George Washington University, '09	84	85	77	83	81	77	85	84	90	746	83
118	Johns Hopkins, '09	86	98	84	93	75	70	75	80	95	756	84
119	University of Maryland, '09	76	90	84	95	80	85	78	82	92	762	85
120	Woman's Medical, Baltimore, '09	81	75	67	87	78	75	80	77	87	707	79
121	University of Maryland, '09	69	90	79	80	71	60	75	76	80	680	76
122	University of Maryland, '08	75	..	86	..	77	75	75	87	82	...	..
123	University of Maryland	93	..	..	..	..	80	68	..	80	...	..
124	Washington University, '09	75	90	72	80	87	76	92	80	75	727	81
125	University of South, '08	73	95	55	71	75	70	81	75	80	675	75
126	University of Maryland	81	..	..	..	..	76	70	..	75	...	..
127	University of Maryland, '07	78	80	82	75	85	77	80	86	75	718	80
128	Maryland Medical, '08	57	80	67	60	65	55	77	70	75	606	67
129	Baltimore Medical, '09	76	92	75	90	85	75	85	75	75	728	81
130	Baltimore Medical, '09	68	95	70	89	81	75	84	79	75	716	80
131	University of Maryland, '09	79	88	80	65	75	87	88	75	78	715	79
132	Maryland Medical, '06	55	..	58	..	..	67	..	..	..	...	..
133	University of Pennsylvania, '09	91	90	88	87	92	80	85	80	98	791	88
134	University of Maryland, '09	69	85	90	92	72	75	83	84	95	745	83
135	College of Physicians and Surgeons, Balto., '09	..	..	..	..	..	..	..	..	..	...	..
136	University of Maryland, '09	77	80	72	89	72	65	75	75	70	675	75
137	University of Maryland	90	..	..	..	..	76	98	..	90	...	..
138	University of Maryland	85	..	..	..	..	81	82	..	85	...	..
139	George Washington University, '09	78	70	71	90	85	80	78	80	87	719	80
140	Baltimore Medical, '09	78	80	78	91	75	72	75	70	75	694	77
141	University of Maryland	95	..	..	..	..	91	80	..	95	...	..
142	Baltimore Medical, '06	49	90	51	..	..	69	..	..	..	...	..
143	Baltimore University, '07	75	..	75	..	76	75	..	..	..	...	..
144	University of Maryland, '09	83	85	91	85	66	80	80	79	75	724	80
145	Johns Hopkins, '09	77	98	89	84	85	56	90	88	85	752	84
146	Maryland Medical, '09	70	90	75	75	66	61	85	78	75	675	75
147	University of Maryland	84	..	..	..	..	78	79	..	87	...	..
148	University C. Med., Richmond, '09	45	78	61	90	60	66	79	75	75	629	70
149	University of Maryland, '09	91	85	85	94	94	90	91	80	90	800	89

In the above summary an average of 75 is required of those participating in the examination for the first time, in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland law, students who, at the end of their second year, have successfully passed their college examination in Anatomy, Chemistry, Materia Medica and Physiology, are entitled to examination by the Board of Medical Examiners in these branches. Ratings made by these students in the examination, which is known as the "second-year examination," are carried forward and made a part of the final examination, when an average of 75 must be obtained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE JUNE (1909) EXAMINATIONS.

ANATOMY.

1. Which of the vertebræ in the cervical region are peculiar? Describe the seventh cervical vertebra.

2. Describe the shoulder joint, naming muscles in relation with it.

3. Through what vessels does blood pass in going from the spleen to the under surface of the middle toe?

4. Describe the duodenum.

5. Name salivary glands and locate the orifice of the duct of each.

6. Give attachments, action and nerve supply of the following muscles: Plantaris, digastric, rectus abdominalis, pyriformis, psoas magnus.

SURGERY.

1. Give symptoms and treatment of cystitis.

2. Describe an amputation at hip-joint.

3. Describe lupus. State what measures you would adopt in its surgical treatment.

4. Describe the immediate and subsequent treatment of a burn of the conjunctiva caused by some irritant, as lime.

5. Give the causes and treatment of ingrown toe nail.

6. State the indication for paracentesis of the ear drum and describe the technique of the operation.

PATHOLOGY.

1. Define caseation, thrombosis, embolus, immunity, infection, bacteria, and name three basic forms.

2. Name four cardinal indications of inflammation. Describe these in their order, and explain these indications. State termination of inflammation.

3. Describe gross appearance of the kidney in chronic interstitial nephritis. Name diseases in which cardiac hyperthrophy commonly results, and explain why.

4. What is leucocytosis? What is phagocytosis? Name some diseases in which leucocytosis occurs, and explain why.

5. State in detail how you would detect malarial organisms in blood. How would you detect tubercular bacilli in a specimen?

6. Describe the pathologic characteristics of gastric ulcer. What laboratory methods may be of service in diagnosis of cancer of the stomach?

OBSTETRICS.

1. Give the diameters of the foetal head, with their average measurements, and describe the head moulding in the L. O. A. position.

2. How would you treat a case of marginal placenta previa with the cervix about one-half dilated?

3. Give the cause and the dangers of ophthalmia neonatorum.

4. Give the clinical history of a case of ruptured ectopic gestation. How would such a case be diagnosed? What treatment should be adopted?

5. Give etiology and treatment of erosions of the cervix uteri.

6. Under what circumstances is the operation of Caesarian section undertaken? What are the varieties and technique of the operation?

PRACTICE.

1. Define uremia, angina pectoris, hepatitis, tenia solium, Landry's paralysis, urticaria.

2. Differentiate tonic and clonic spasms; hemoptysis and hematemesis; sibilant and sonorous rales. What is tic douloureux, and how would you treat it?

3. Name varieties of chronic nephritis. Give treatment and symptoms of one variety.

4. What are the physical signs of pulmonary solidification and of pleuritic effusion?

5. Give differential diagnosis between scarlet fever, measles and roseola.

6. Give cause, diagnosis and treatment of tetanus. Describe symptoms of intestinal obstruction and name three types.

CHEMISTRY.

1. Explain the terms (a) reaction, (b) reagent, (c) allotropic modification, (d) valence, and give an example of each.

2. Give two tests for each of the following chemicals: (a) iodine, (b) zinc sulphate, (c) magnesium sulphate, (d) silver nitrate, (e) tannic acid.

3. Describe the physical and chemical properties of (a) potassium and aluminum sulphate, (b) glycerine, (c) amylum, (d) reduced iron, (e) paraformaldehyde.

4. (a) What is alkaptonuria? Give a test for its detection. (b) Given urine containing pus and having an albuminous reaction, how would you determine whether the albumin be due to pus alone or to nephritis as well? (c) In the putrefaction of milk, what toxin is produced? (d) Complete the following equations: 2 $NaCI+Ag_2SO_4$, $BaO_2+H_2SO_4$, NH_3+HCI, $MnSO_4+Ca(H_2PO_2)_2$, $HgCI_2+_2KI$.

5. (a) What is the strength of physiological salt solution? (b) Give the chemical reason why diabetics should abstain from starchy food.

6. (a) How would you distinguish morphine sulphate from quinine sulphate? (b) How would you show the presence of organic matter in water?

MATERIA MEDICA.

1. Ammonium: Its preparations and the dose of each.

2. Name three vegetable astringents, giving the source of each.

3. Sodium salicylate: Source, dose and indications for use.

4. Podophyllum, caffeine, strychnine: Give the source and dose of each.

5. What do you understand by the terms antipyritic, diuretic, diaphoretic, anthelmintic, oxytocic and antiseptic?

6. Name three drugs which may be used to produce emesis, giving dose of each.

THERAPEUTICS.

1. Therapeutics of cold.

2. Nitroglycerine: Its therapeutic uses and the contraindications for its use.

3. Differentiate the convulsions produced by an overdose of strychnine and those of tetanus.

4. Write a prescription containing three drugs, using Latin terms without abbreviations, suitable for administration in a case of acute articular rheumatism.

5. Differentiate the coma of alcohol and opium. Give treatment of each.

6. In what class of cases is chloroform preferable to ether as an anaesthetic? Describe the methods of administering the two drugs in producing anaesthesia, and give the symptoms indicative of danger in each.

PHYSIOLOGY.

1. Give the composition of saliva, gastric juice and pancreatic secretion, and the function of each.

2. (a) What is meant by tidal, complemental, reserve and residual air? (b) What is meant by "the vital capacity?" (c) Give difference between inspired and expired air.

3. State what you know of the absorption of foodstuffs.

4. Define the pulse and give some of the causes for variation in the same.

5. Describe the physiological function of the kidneys and give the specific gravity of urine.

6. What is meant by the heat mechanism of the body? What are the terms expressing heat production and heat dissipation?

Medical Items.

William H. Welch, M.D., of Johns Hopkins University, is traveling abroad.

Henry M. Hurd, M.D., has returned after a vacation spent at Seal Harbor, Maine.

The Church Home and Infirmary is about to erect quarters for its nurses at a cost of about $25,000.

The Board of Medical Examiners issued licenses to 100 new doctors who passed the examinations given in June.

The semi-annual meeting of the Medical and Chirurgical Faculty of Maryland will be held at Braddock Heights on September 15, 16 and 17.

Percy M. Dawson, M.D., associate professor of physiology at the Johns Hopkins Medical School, has resigned his position to study for the Unitarian ministry.

Robert Retzer, Leipsic University, 1904, has resigned as associate in anatomy at Johns Hopkins University to become associate in anatomy at the University of Toronto.

The Surgeon-General of the War Department announces that examinations will be held for appointment to the medical corps of the army on September 7.

Thomas Chew Worthington, M.D., left for Europe August 4, and will visit Germany, Austria, Italy, France, Spain and England, returning about October 1.

The Maryland Phamaceutical Association, at its recent meeting, passed a resolution favoring the present campaign for better legislation for pure food and drugs.

Theodore Cooke, Jr., M.D., University of Maryland, '91, was elected to the presidency of the National Prison Physicians' Association at their convention in Seattle, Wash., August 18.

Anton Dilger, M.D., of the Faculty of Heidelberg University, Germany, who is inspecting American hospitals for the Government of Baden, recently visited Eudowood Sanitarium.

William Henry Smith, M.D., University of Maryland, 1900, was so unfortunate as to break his leg while playing on the side of the Visiting Physicians, in their game with the House Physicians of the University of Maryland, August 20.

Judiac Union, Lodge No. 7, will open a Polyclinic and Hospital on East Baltimore street, near Front, about October 1. Among the physicians in charge will be Drs. Leonard Keene Hirshberg, Sylvan S. Rosenheim and Lee Cohen.

Henry McE. McKnower, Johns Hopkins University, 1890, has resigned from his duties at Johns Hopkins University to accept a position as associate in anatomy at the University of Toronto. Dr. McKnower is co-editor of the *American Journal of Anatomy*.

MARRIAGES.

Otto Fisher, M.D., of Virginia, to Miss Mollie Clara Nash of Baltimore, on August 14.

Caleb Noble Athey, M.D., University of Maryland, '94, to Miss Helen Skipwith Wilmer, both of Baltimore, August 3.

Ralph H. Augur, M.D., Baltimore Medical College, to Mrs. Stella Howard Townsend, both of Washington, August 9.

DEATHS.

George W. Hamill, M.D., at the Mercy Hospital, Baltimore, August 13, aged 56 years.

Rev. Edward Mortimer Hardcastle, M.D., University of Maryland, '89, at his home in Easton, August 15, of consumption, aged 42 years.

Percy Stansbury, M.D., Baltimore University School of Medicine, '94, at his home in Dorchester county, July 26, of heart trouble, aged 46 years.

Joseph W. Southall, M.D., at his home in Jetersville, Va., August 2, aged 77 years, of cholera.

John B. Morton, M.D., of Lynchburg, Va., was instantly killed by a train at Lawyers, July 27, aged 78 years.

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TUBERCULOSIS IN FACTORIES: WHAT MASSACHUSETTS EMPLOYERS ARE DOING.

[Editorial Comment, *Boston Medical and Surgical Journal*, March 11, 1909.]

At the present time investigations are being made by physicians known as State Inspectors of Health, under the supervision of the State Board of Health, concerning the health and the influence of occupation upon the health of children and young persons, but there is no law by which adults working in factories may be examined and such steps taken as may be deemed advisable or necessary for guarding the public health.

Whenever, in the judgment of a State Inspector of Health, it is necessary to make a physical examination of any person employed in a factory between the ages of 14 and 21 years, respectively, such examination is made and both the State Board of Health and the minor's parents are notified of any serious signs of ill-health. All minors found with beginning pulmonary tuberculosis are followed up by the State Inspector of Health to the extent of seeing, if possible, that some means is provided whereby proper treatment for the particular minor in question may be had.

In order to meet the problem fairly, adults as well as minors ill with tuberculosis should be detected and properly cared for, if for no other reason than to protect the healthy employes from ignorant or careless consumptives. Some of the employers, appreciating this fact, are assisting the work of the State Inspectors of Health by not only permitting them to make inquiries concerning the health of adult employes, but by calling the employes' attention to the work of the State of Massachusetts and offering to pay a portion or all of the expenses of any regular employe found to have beginning tuberculosis who can obtain admission to the State Sanatorium at Rutland for varying periods or until cured. One paper firm in the Norfolk district employes a physician, and when an early case of tuberculosis is found the employe is sent to some proper sanatorium at the company's expense. In the Worcester district the State Inspector of Health has secured the co-operation of a considerable number of employers, as follows: Two have volunteered to be responsible for the expenses amounting to $4 per week for a period of three months at the Rutland Sanatorium of any regular employe found to be ill with tuberculosis, one not limiting the length of time to three months; 11 have guaranteed to be responsible for three months' care at the same institution without reference to expense, six of whom did not exact a time limit; four employers agreed to be responsible for the payment of $4 per week for a period of three months for the care of the patient either at Rutland or at any similar institution, while two made a similar agreement without stating an expense limit.

Ten different industries are represented in this movement, namely: (1) Machinery, machine parts and metal supplies; (2) textiles; (3) wire; (4) tanning and leather goods; (5) railway cars; (6) bleaching and dyeing; (7) art novelties; (8) corsets; (9) envelopes; (10) druggists' supplies. In the establishments visited in which the above trades were conducted it is interesting to note that the sanitary conditions found were, with but few exceptions, beyond criticism, and that in a number of them the conditions in respect to the health, safety and welfare of the working people were practically ideal.

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stated, five minors have been discovered with early signs of tuberculosis, all of whom have been accepted by the Rutland authorities and are undergoing treatment. Several other employes have presented themselves for examination for admittance to the institution.

THE PARATHYROID GLANDS.*

By J. S. Gilfillan, M.D., St. Paul.

[*St. Paul Medical Journal*, June, 1909.]

The parathyroid glands are normally four in number in the human being, but there may be from one to six present. They are commonly found in the areolar tissue behind the lobes of the thyroid, usually two on each side.

It is of considerable importance to know that three, or all, may be on one side. Erdheim says that their position is too variable to be depended upon at operation.

During the early days of thyroidectomy, when the gland was often removed entire, cases of tetany following operations were relatively frequent. In some cases tetany would first appear, and later be followed by chronic cachexia. These two conditions were looked upon as the acute and chronic stage of the same disease, and were termed, respectively, tetania and cachexia thyreopriva, as the symptoms were considered due to the loss of the thyroid.

However, some cases in which complete thyroidectomy had been done did not develop tetany, and not infrequently, where apparently sufficient thyroid was left, this condition supervened.

Vassale and Generali in 1896 by their experiments proved that when the parathyroids were extirpated tetany developed, and that when the thyroid alone was completely removed it was absent, and that the intensity of the tetany was usually proportionate to the amount of parathyroid tissue removed.

No sooner had the parathyroids begun to assume some importance in physiology and pathology than attempts were made to attribute to their disturbed function a great number of diseases, many of them on purely hypothetical grounds. It will be interesting to consider briefly some of these conditions and the grounds we have for supposing them to be due to faulty function of the parathyroids.

Among such diseases I find mentioned tetany of all kinds, puerperal eclampsia, epilepsy, myotonia congenita, myoclonia, paralysis agitans, myasthenia gravis pseudo paralitica, exophthalmic goitre, osteomalacia and rachitis.

Among these various diseases the only one toward which the relationship of the parathyroids seem to be supported by sufficient evidence is tetany in its various forms.

By tetany we understand, briefly, a pathologic condition characterized by intermittent, bilateral tonic cramps, often painful, affecting usually the hands and arms, frequently the lower extremities, and less often other groups of muscles. During the attacks consciousness is not impaired. During the intervals between the attacks electrical hyperexcitability of the nerves and the phenomena of Trousseau and Chvostek are present.

Chvostek says that all forms of tetany are identical, and that the condition must be due either to a specific poison or to a specific reaction on the part of certain individuals. A specific poison has

*Read before the Ramsay County Medical Society November 30, 1908.

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been sought for, but never found, and Martius remarks that it would be as reasonable to expect to find in the urine of every patient with a pulse of over 120 a specific tachycardia toxine as to find a specific tetany toxine.

Erdheim has had the opportunity to examine post-mortem three cases dying of tetany after thyroidectomy. The examinations were very minute, in one case over 10,000 serial sections being made and examined. In two of these cases no parathyroids could be found; in one case one gland was found in a necrotic condition. In all three sufficient thyroid tissue had been left, and this apparently in good condition. In these cases thyroid medication had been tried without results.

Benjamin examined the specimens removed from nine patients at thyroidectomy. In five cases he found that more or less parathyroid tissue had been removed, and four of these developed tetany. Four cases where no such tissue was found remained free. In Kocher's last 1000 thyroidectomies five cases developed tetany, these all being secondary operations, where on account of adhesions it was impossible to perform a typical operation.

McCallum and Voegtlin, in cases of experimental tetany, found that the blood contained only one-half the normal amount of Ca., and that the Ca. output was increased. The attacks could be promptly stopped by the intravenous injection of Ca., more slowly by its administration by mouth. It appears to them that the parathyroids control Ca. metabolism. These results are interesting in view of the changes in the calcification of the teeth so often found by Erdheim.

Attempts have frequently been made to utilize the parathyroid glands as a therapeutic agent. In animals transplantation has at times prevented tetany, as has also the use of parathyroid extract, but this must be used intravenously and in large amounts. Kocher removed one gland from a patient and implanted it between the peritoneum and fascia of another, the subject of tetany, "with apparent success."

Halstead reports a case, diagnosed as post-operative tetany, which seemed to do well upon taking the fresh or dried parathyroids of the ox.

It may be well to speak briefly of the surgical aspects of the parathyroids. In cases of goitre they may be displaced, and at times stretched and atrophic, forming thin structures on the thyroid capsule. In this condition it may be that they are relatively insufficient and that the removal of one or two, which under normal conditions would not give rise to any serious results, might be followed by tetany. It is to be remembered also that the glands themselves or their blood supply may be injured, this injury being followed by necrosis of the gland and possibly tetany.

In cases of malignant goitre, Erdheim thinks that an effort should be made to find the parathyroids and to remove the entire thyroid.

The conclusions drawn from the above observations are: That post-operative tetany is almost certainly, other forms of tetany probably, due to parathyroid insufficiency. That certain diseases manifesting disturbed Ca. metabolism, notably rachitis and osteomalacia, may possible have a similar origin, while as yet the evidence is insufficient as to the many other constitutions mentioned in this connection. The value of parathyroid therapy is as yet doubtful.

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THE SURGERY OF THE THYROID GLAND.

By Randolph Winslow, M.D., LL.D.,
Professor of Surgery in the University of Maryland.

READ AT THE SEMIANNUAL MEETING OF THE MEDICAL AND CHIRURGICAL FACULTY, BRADDOCK HEIGHTS, MD., SEPTEMBER 16, 1909.

THE great importance of the thyroid gland and of its associated parathyroid glandules in health and disease is only beginning to be appreciated. The thyroid body is known as a ductless gland, because it has no direct communication with any of the cavities or the surface of the body. Its secretion is distributed to the system by means of the venous or lymph channels, and is an essential element in the normal development of the organism. If this secretion is absent or deficient from congenital defect of this gland, a condition of stunted growth of the body and mind of the child results, and is known as cretinism; if as a result of disease or of surgical operation, too little thyroid secretion is furnished the system, a condition resembling cretinism, and known as myxedema, results. These conditions are now largely amenable to treatment by the administration of an extract of thyroid gland of some animal or of the desiccated powder of the thyroid. The opposite condition of too much thyroid secretion is seen in Graves' disease or exophthalmic goitre, in which distressing and alarming symptoms develop, referable especially to the heart and the nervous system, and occurring in both acute and chronic forms. The thyroid secretion when absorbed from a wound is highly toxic, causing symptoms that are characteristic, and in many cases terminating fatally in a short time.

The parathyroid glands are usually four in number, and are situated in close proximity to the lateral lobes of the thyroid or they may actually be imbedded in the substance of the thyroid. The function of these glandules is not as yet well understood, but the symptoms produced by the absence or too great diminution of the secretion of these structures is well recognized. When all four of the parathyroids are removed, a fatal tetany is set up; when all but one are removed, the condition of tetany generally supervenes in a milder form and does not prove fatal, whilst two may often be removed without producing deleterious symptoms.

The thyroid body consists of two lateral lobes connected by an isthmus. These are developed separately, and may fail to coalesce in the usual manner; hence the isthmus may be absent in some cases. Frequently a pointed process extends upwards from the isthmus, and is called the pyramidal process. Occasionally masses of thyroid tissue are found in the neck or base of the tongue, or even in more remote portions of the body, as the bones. For the size of the organ the blood supply of the thyroid is very large, and usually consists of the two superior and the two inferior thyroid arteries, with sometimes an arteria ima, and superior middle and inferior thyroid veins. The gland is surrounded not only by a covering from the deep cervical fascia, but by a special capsule of connective tissue which dips into the interior of the organ, and therefore does not strip off easily. This gland is subject to most of the injuries and diseases that are found in other portions of the body, such as wounds, inflammatory affections, abscess, syphilis and tuberculosis, but these conditions occur comparatively seldom. It is also not infrequently the seat of malignant growths, both carcinoma and sarcoma, and one must always bear in mind the possibility of a non-malignant struma becoming malignant. This is especially to be suspected in rapidly growing and irregularly shaped neoplasms of this organ. Albert Kocher says: "If a thyroid gland begins to grow after the thirty-fifth year of life without any apparent cause, malignant change should be suspected." When the thyroid gland is enlarged as the result of overdevelopment or degeneration of some of its elements, the possessor is said to have a goitre, bronchocele or struma, of which there are several varieties. The enlargement may affect the whole gland, when it is known as diffuse goitre, or, as is more frequently the case, only a portion of the thyroid may be affected, when it is said to be a nodular goitre. If there is a uniform enlargement, due to hypertrophy of all the tissues of the gland, but especially to an increase in the epithelial cells, with but a moderate distention of the colloid vesicles, the condition is known as a parenchymatous goitre. If the vesicles are markedly distended with fluid, the swelling is called a colloid goitre.

If the vesicles become converted into a distinct cyst, it is called a cystic goitre. Sometimes the glandular elements become converted into hard or firm nodules, and an adenomatous goitre is formed; so also there may be fibrous goitres, when the interlobular connective tissue is aggregated into masses, or the blood vessels may be in excess and form a vascular goitre. These different forms are not often found as distinct varieties, but are usually associated together to a greater or less extent. I have already briefly alluded to the malignant goitres, and only want to include in the classification of goitre that peculiar affection called Graves' disease, Basedow's disease and exophthalmic goitre. Goitre occurs to some extent in most parts of the world, but it is found much more frequently in some countries than in others, and in some portions of a country than in other localities of the same

country. This is probably due to some peculiarity of the drinking water. It occurs with especial frequency in Switzerland, the Austrial Tyrol and parts of France and in India. Whilst it does not occur with great frequency in the United States, it is by no means uncommon, and as it is not only a great disfigurement, but may cause serious symptoms, and even death, we should not leave the cases to nature, but after a reasonable trial of medical treatment without success, they should be subjected to surgical operation at the hands of a competent surgeon. A goitre may attain huge proportions, so that it overhangs the front of the chest (Fig. 1), or

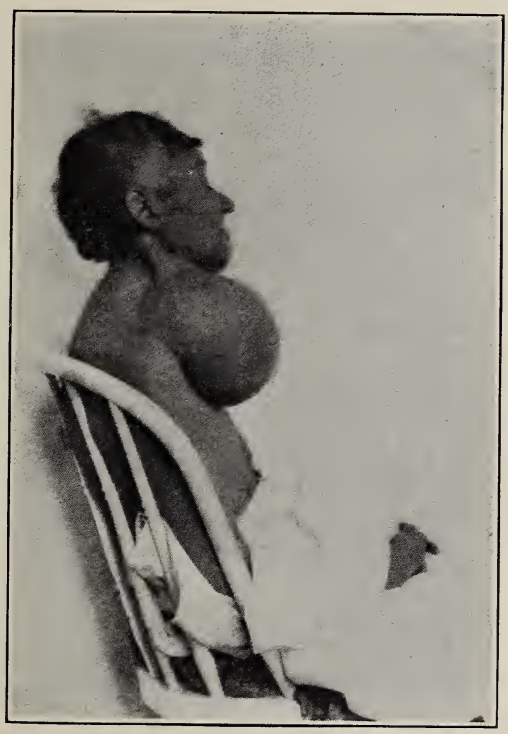

FIG. 1

it may dip behind the sternum and pass into the anterior mediastinum and cause pressure on the great vessels and nerves, with interference with respiration. Even when it does not become intrathoracic, the trachea is liable to be displaced and compressed by the growth, and the vessels and nerves of the neck to be pressed upon, causing cyanosis, dysphagia, dyspnea, cough and alteration of the voice from irritation or paralysis of the laryngeal nerves. As a result of the formation of goitre there may result symptoms of myxedema from the loss of secreting tissue, but this is not so frequent as the occurrence of symptoms resembling those of Graves' disease, due to an exaggeration of the thyroid secretion.

The whole or any part of the thyroid gland may be the seat of goitre. In either case there is a tendency for the growth to rotate toward the front and to form a large, prominent and ungainly tumor lying in front of the trachea, to which it is firmly attached, thus causing the growth to move upward during the act of swallowing or coughing. This is a very valuable diagnostic sign in the differentiation of tumors of the thyroid from other neoplasms of the neck. When the goitre is large it will also extend in other directions, and will displace the sterno-cleido-mastoid muscles, or it may extend beneath these muscles into the posterior triangles of the neck.

When there are accessory thyroid growths, detached from the thyroid gland, it may be difficult to determine the nature of the tumor prior to its removal. Goitre is of much more frequent occurrence in females than in males, and usually begins to be noticed before 30 years of age; often, indeed, it appears about the period of puberty, but may not occur until after 40 years of age. It is sometimes hereditary, or at least affects several generations of the same family. This disease has been known for many centuries, but has not been subjected to surgical operations until comparatively recently, and the names of Billroth and Kocher are indissolubly connected with the development of this department of surgery. At the present time the technique of operations for goitre has been brought to a high degree of perfection, and the results of surgical intervention are highly satisfactory both to the patient and the surgeon. The object of this paper is to call the attention of the physicians of Maryland to the fact that all forms of enlargement of the thyroid gland, which are usually grouped under the term goitre, can be relieved by surgical means after the failure of other therapeutic measures. That is, I do not wish to convey the idea that every case must be operated on, as some of them will disappear or remain quiescent under medical treatment, but the majority of them will sooner or later require the assistance of surgery for their cure or relief. Whilst operations can be performed for the cure of goitre with a very high percentage of success, it is only by the exercise of great care and skill that this can be accomplished. The dangers are manifold, but may be avoided. Hemorrhage is an ever-present menace, but can be prevented by carefully isolating and tying the superior and inferior thyroid vessels before cuting them, as well as any other vessels that may present themselves. Great care must be taken not to injure the recurrent laryngeal nerve which lies in close proximity to the inferior thyroid artery. Sepsis must be forestalled by careful preparation of the field of operation and the observance of an accurate aseptic technique. Thyroid absorption is to be avoided by abstaining from undue or rough handling of the gland, by carefully suturing the capsule over any raw surfaces and by establishing free drainage for from 24 to 48 hours. One of the most distressing as well as most dangerous sequelæ of operations on the thyroid is acute thyroidism from the entrance of thyroid secretion into the

circulation. The patient becomes enormously restless and tosses from side to side, active delirium sets in, the pulse becomes very rapid and thready and the temperature exalted; there may be vomiting and sweating, and death usually closes the scene in from one to three days.

It is best that operations on the thyroid should be performed with the patient in an almost sitting posture and with a roll under the neck to make the field of attack more prominent. In this position there is a free return of the venous blood to the heart and less congestion and hemorrhage during the operation. Following the practice of the elder Kocher, most surgeons operate under local anesthesia with cocaine or novacaine, after the administration of morphia, gr.¼, hypodermically, as a general anesthetic is thought to be especially toxic in these cases. On the other hand, Charles H. Mayo, whose experience is far larger than that of any other American operator, prefers to operate under ether. Certainly the administration of a general anesthetic should be done only by a thoroughly competent anesthetist in such conditions as thyroidectomy for Graves' disease. Personally, I prefer local anesthesia, and morphia and scopolamin hypodermically. The patient experiences some discomfort, but it is endurable, and is not recalled later. It is easier to avoid injury to the recurrent laryngeal nerve if the patient is not unconscious. Several operative procedures are applicable to the cure or relief of goitre, and the one selected will depend upon the particular variety of thyroid disease present. In diffuse parenchymatous or colloid goitre a partial thyroidectomy, removing one lobe and the isthmus, or even a portion of the remaining lobe, is the method of choice. This is also the proper procedure in cases of exophthalmic goitre, although in some cases it may be best to do a preliminary ligation of the superior thyroid arteries some time before the thyroidectomy. Under no circumstances, except in malignant disease, should a complete thyroidectomy be done, as tetany or cachexia strumipriva is almost sure to follow. When the whole gland is extirpated fatal results may be prevented by administering thyroid extract to the patient. When there are nodular masses in the thyroid, either solid or cystic, they may be enucleated, leaving the structure of the gland intact, as was first suggested by Socin. Whatever the method that may be employed, great care should be exercised not to remove or injure the parathyroids. This may be avoided by keeping within the capsule of the thyroid gland, which C. H. Mayo calls the subcapsular method. He recommends that any small glandular masses that may be accidentally removed should be replaced in the neck or imbedded in the capsule of the thyroid body. Graves' disease is a much more serious condition than ordinary goitre, and, whilst it usually arises independently, it may be engrafted on a previous thyroid enlargement. The main symptoms of Graves' disease are rapid pulse or tachycardia, enlargement of the thyroid gland, with often great increase in its vascularity, as shown by bruit, thrill and pulsation, and protrusion of the eyeballs, so that the scleræ are

exposed and the upper lids cannot follow quickly the downward movements of the eyeballs. As these and many concomitant symptoms are due to an excess of thyroid secretion and absorption, the first fact to be learned in the treatment of this disease is to abstain from the exhibition of thyroid extract. The patient already has too much thyroid absorption, so don't increase the poisoning by giving thyroid extracts. The surgical treatment of Graves' disease offers more hope of cure or relief than any other method. Jonnesco's operation of sympathectomy, or removal of the cervical sympathetic ganglia, has been tried and found wanting, and is now seldom resorted to. Ligation of the superior thyroid arteries has a beneficial effect, and is especially useful as a preliminary to partial thyroidectomy. That which gives the best results in this condition is the excision of one lobe and the isthmus of the gland, and subsequently, if necessary, a resection of a portion of the remaining lobe. This is a serious procedure for a serious disease, but the results are excellent, both as to immediate mortality as well as to permanent cure. After this operation the tachycardia usually rapidly subsides, the exophthalmos diminishes and the nervous phenomena recede, and the patient is restored to a condition of comfortable and useful existence. In some cases it is necessary to remove additional gland substance at a subsequent operation.

Operations for goitre in preantiseptic days were but seldom done, and were attended with a high mortality. The first operation of thyroidectomy in Maryland, as far as I am aware, was performed by Prof. Nathan R. Smith, a brief account of which I present herewith:

Case.—Mrs. W., laboring under a formidable tumor of the neck, consulted Dr. Smith, probably about 1834. This growth had been in existence for 20 years, and she was about 40 years of age and the mother of several children, of spare habit and sickly aspect, and was incapacitated for attending to her domestic concerns. She lived in Prince George's county, where diseases of malarial origin are common, and she had suffered from several attacks of bilious and intermittent fever. The tumor was of large size, occupying the whole space between the hyoid bone above and the sternum below, and by its weight assumed something of a pendulous form. Some months previously the skin covering the most prominent portion of the tumor had ulcerated and all the means which had been employed to favor healing of the sore had failed. There now issued from this sore a dark fungous excrescence, from which a bloody and offensive discharge occurred. The tumor was evidently one of the thyroid gland, and on carefully weighing all of the circumstances of the case it was manifest that there was no rational ground for hope that any course of paliative treatment would arrest the progress of the disease or affect the cicatrization of the ulcer. "We arrived at the conclusion that the operation would be attended by extreme difficulty and great peril to the patient, but as a last resort we regard it as justifiable in this case. The patient acceded to our opinion, and resolved to place herself

wholly in our hands and to pursue any course that we thought proper to undertake."

OPERATION.

An elliptical incision was made circumscribing the ulcerated portion of the tumor. A dissection was then made around the body of the tumor on the right side, and the thyroid artery was exposed and ligated; the various blood vessels were secured with ligatures, and the facia covering the tumor was divided and the tumor loosened from its attachments. During this process a large vein was wounded, and air was heard to enter the opening in the vein. Fortunately, this was not followed by any bad result. The same procedure was done on the left side, and the tumor was completely removed. This operation was done without any anesthetic, and was necessarily painful and protracted, its execution occupying about an hour. The patient endured her sufferings with wonderful fortitude, and at no time did any alarming symptoms take place. The wound was closed with interrupted sutures and adhesive strips. She was able to swallow liquids without difficulty, and her voice was but little altered and her breathing not difficult. The next morning her dressings were found soaked with blood, which was still flowing from the wound. The stitches were cut, the wound opened, and a mass of blood clot turned out. The bleeding was found to occur from a small artery, which was secured by a ligature, and the hemorrhage controlled. The patient did well for four days subsequently, but on the fifth day there occurred a severe rigor, followed by fever, with sweating, resembling a paroxysm of intermittent fever. These rigors recurred every day, and the patient died on the thirteenth day. Dr. Smith attributed the fatal result in this case to malarial poisoning, but in the light of our present knowledge it is evident that the rigors were due to sepsis, and not to malaria. I have made this abstract of this case from "The North American Archives of Medical and Surgical Science," Vol. II, page 209, because, as far as I know, it is not only the earliest case of the removal of a goitre in Maryland, but on account of the boldness of the operator in undertaking such a serious operation at a time when ether was not introduced into practice, and many years previous to the introduction of antiseptic surgery, and when methods of controlling hemorrhage were still very inadequate. Dr. Smith says that "it is rare that a case occurs which will justify the attempt to remove the thyroid gland, but the above case appears to me to warrant the belief that it may be undertaken with hope of success."

My individual experience in operations on the thyroid gland is not large, but I have records of 26 cases of goitre in some of its varied form which I have removed. Twenty-five of these cases recovered and one died of acute thyroidism. Three operations were on males, 23 on females. Two only were on colored persons; the rest were whites of various nationalities. Two were cases of Graves' disease, and two others may have been, but were not characteristic.

In most of the cases I removed one lobe and the isthmus. Sometimes I also excised a portion of the remaining lobe. In a few cases I was able to enucleate isolated nodules, leaving the gland intact, as originally recommended by Socin. In some cases I have been able to operate within the capsule even before the subcapsular method of Charles H. Mayo was announced. I have usually attempted to secure the arteries, especially the inferior thyroid, after its distribution to the capsule of the gland, in order to avoid danger of injuring the recurrent laryngeal nerve. I do not know of any cases of tetany or myxedema occurring in those upon whom I have operated. I endeavor to avoid removal of the parathyroid glands, and I always leave a portion of the thyroid *in situ* to guard against myxedema.

Whilst all enlargements of the thyroid gland are disfiguring to the patient and a source of mortification, but few of them remain any length of time without producing symptoms either by pressure on the trachea, esophagus and vessels or by causing constitutional reaction from an increase or diminution or alteration in the secretion of the gland; hence goitres of all varieties should be dealt with as surgical maladies at an early rather than a late period. This is emphasized further by the fact that malignant changes occur in a considerable percentage of cases, and the only possible hope of forestalling or curing these cases lies in an early operation.

Another condition for which hemithyroidectomy is being performed is adolescent insanity. I am not sufficiently well versed in this disease to know how the removal of a portion of the thyroid gland exerts a beneficial effect upon this malady, but I suppose it is by diminishing the amount of toxic secretion absorbed from the gland. As far as I am aware, this operation was first advocated by Dr. N. M. Owensby of this city. My own experience is limited to two cases, one of whom promptly died from acute thyroidism, and the other has only recently been operated on, but seems to be improving. These operations were done at the request of Dr. Irving J. Spear, clinical professor of nervous diseases in the University of Maryland. My former assistant, Dr. Robert P. Bay, now medical superintendent of the University Hospital, has also operated on two cases of this character with the most brilliant results. One of these individuals, who had become but little better than a beast, in a short time was cured and was able to return to his occupation; the other case was also cured.

(To be continued.)

NO MATTER what surgical indication there may be, if any, almost every case of rickets will be benefited by internal use of pituitary extract combined, as other indications may point, with thymus or thyroid extract.—*Roswell Park, Northwest Medicine.*

PARACELSUS.

(1493-1541 A. D.)

SEVENTH OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter VII.

It has already been noted that the medical profession, as a whole, did not occupy a very exalted position up to the fifteenth or sixteenth centuries.

At this we do not marvel, since medicine as an art *per se* was very crude and undeveloped, and we find that its practitioners paid more attention to a study of astronomy or Greek, or alchemy than to the practice itself.

We can have no quarrel with them for their difference of opinion, since we, in this enlightened medical age, are not entirely exempt from a similar complaint. But it seems that, had they limited their sphere to the actual study of the body and to the cure of its diseases, the doctors of the middle ages would have been able to retain the respect of a greater portion of the public. But they evidently had not yet been able to grasp the real immensity of medicine, and thus dragged in philosophy, theology, astrology and every possible or imaginary science, paying so much attention to their study that they neglected their only legitimate field.

So it happened that, to cover up their ignorance, they assigned diseases to philosophical, theological or astrological causes, entirely overlooking the strictly medical side.

The consequence was that the art made little progress and the public generally lost confidence in the ability of the physicians, which finally reacted upon the profession itself.

There is little wonder that the state of the profession was not held in higher esteem, when one considers the teachings of even the most prominent medical lights. A professor at the University of Catania declared, in the official *Institutiones Medicinae*, that "The parings of the nails of the hands and feet excite vomiting and are useful in the falling sickness, in lethargy, dropsy and agues." He further asserts that "Urine, drank fresh and warm in a morning on an empty stomach, guards against the poison of vipers." Another great discovery this wonderful man had made was that "The husband's urine, drank by a lying-in woman, procures her an easy delivery."

At a somewhat later date the Pharmacopeia differentiated between the therapeutic value of *urina hominis pueri impuberis* and *urina hominis adulti.* Excrement of man and animals also found its way into the therapeutics.

We have already noted that in the last epidemic of the sweating sickness it was as a result of the discovery of two *artisans* that the correct treatment was finally instituted.

As far as the cause and treatment of this and other epidemics were concerned, it was a case of—

When doctors disagree, who shall decide,
And credence give o'er quacks and fakers?
In whose decision shall we all abide?
Why, the undertaker's!

But mankind has never proved itself willing to leave it to them. The field was quite ripe for some energetic character who could and would bring into play real common sense and judgment, in which he would differ, of course, from many of the regulars.

Such a man seems Theophrastus, or Aureolus Paracelsus, an individual whose influence extended down to recent times.

He was born near Maria-Einsiedeln, Zurich, Switzerland, about 1493. His father was a physician and his mother had been, before her marriage, the matron of the hospital connected with the convent in the town. As a youth he was rachitic, and consequently his early education had been neglected. When he became able to take up his studies he received instruction from his father in alchemy, astrology and medicine. Upon the latter's death, Theophrastus was turned over to a monk, who prepared him for higher work at the University of Basle, which he entered at the age of 16.

After leaving this institution he became a wandering student, and later was given the appointment of army surgeon, in which position he perfected his medical and surgical knowledge.

He thus took part in many wars; and, having imbibed a love of adventure and travel, visited Spain, Portugal, Prussia, Denmark, Egypt and Tartary—no mean accomplishment in those days of difficult transportation.

In this manner he acquired a great variety of knowledge, having made it a point to investigate everything in a medical way at each of the places he touched, interviewing physicians, old women, gypsies, barbers, bathkeepers, and even executioners—always with the one idea in mind of studying nature as it affected the medical art.

At the age of 32 he returned from his wanderings, and soon his successful cures became the talk of the day. No less than 13 princes had been brought to recovery after having been abandoned by the Galenic physicians, and as a result of the influence of Luther's pupil, Oecolampadius, he was named professor of surgery and physic at his *alma mater,* the University of Basle, in 1527.

There is a great deal of mysticism about the life and works of Paracelsus, and writers are as divergent as the poles in estimating his character and teachings. That he was no higher, morally, than that of the age in which he lived, all agree. Perhaps we should not be overcritical in this particular, since we find that even kings and princesses and great church dignitaries were not averse to drinking each other under the tables. Nor did they make any secret of their immorality.

In his Vita Oporini, Oporinus, who had been secretary to Para-

celsus, relates that during two years the professor was intoxicated every day, and was unknown to have changed his clothes. He also was inseparable from his sword, which he upon occasions would flourish about the room with a careless abandon that made visitors shorten their stay. But these criticisms were made by a disgruntled pupil and must be taken sparingly.

He assumed the cognomen of "Paracelsus," although his real name was Bombast von Hohenheim, in accordance with the custom prevalent for distinguished physicians to appropriate for their use a Latin or Greek title.

It was declared by his enemies that his origin was of a very lowly character, but, once having become famous, he arranged for himself an aristocratic genealogical tree—very much after the fashion of our own day—a weakness prevalent in many ages and which caused a great wag to suggest that if many of the boasters of high family descent but went back *far* enough they would very likely land in a brothel or upon a scaffold.

Theophrastus had little patience with the teachings of the day; and, to show his contempt for the ancients, he publicly burned the works of Galen and Avicenna, declaring at the same time that "All the universities had less experience than his beard, and that the down on his neck was more learned than all the authors."

So it can be seen that early in his career he displayed that oddity which is supposed to accompany genius, and, as might have been expected, he soon found himself the target for the darts of confreres.

Paracelsus was the first medical lecturer to confine himself to the German language; and, as a consequence, his auditors were many. As only those learned in the classical tongues had hitherto been able to take up the study of medicine, it was made quite easy for candidates by Paracelsus' method; and he thus soon acquired a large following among the less educated, a fact which seems to have resulted favorably to the final advancement of medicine.

Although he had so little respect for the learning of the ancients, he, nevertheless, greatly admired Hippocrates, with whom he was wont to compare himself.

This habit of self-praise seems to have been a rather common one of the age; and Rademacher, who as late as 1848 promulgated a system of medicine based on the teaching of Paracelsus, goes to great length to excuse this and other of his hero's weaknesses.

In painting his ideal physician, Paracelsus declares that "He must be a traveler. Diseases wander hither and thither, world-wide, and remain not stationary at one place. If a man wishes to learn much of disease, let him travel far. If he do so, he will acquire great experience. Countries are the leaves of Nature's code of law; patients, the only books of the true physician. Reading never made a physician—only practice."

However incomplete this statement would appear today, Paracelsus undoubtedly was not far from the truth, as medical books

were in his time; for one marvels that disease was ever at all cured, judging from the state of the art, and especially of treatment as outlined in many of the works then extant. He had no use for books, and made no secret of it. Nor did he make any attempt to mask his feelings toward the regular faculty.

His contempt for the regulars, or followers of Galen, manifested itself in many ways, and he was never so happy as when he was ridiculing them to his pupils.

But he did not confine his animosity to the doctors. He accused the apothecaries of false dealing, declaring that they substituted poor drugs and gave short measure, and for these no doubt truthful charges he soon had that guild also up in arms against him.

Finally, he became entangled with the law courts, which resulted in his sudden departure from Basle. A church dignitary suffering with gout agreed to pay him 100 florins for relief. Paracelsus administered his *laudanum,* and the ecclesiastic soon felt better. But the sly old fox, being no more in agony, offered the physician only the usual legal fee. Paracelsus scorned the paltry sum and immediately instituted proceedings against him. The judge, however, decided in favor of the churchman. This so angered Theophrastus that he roundly abused the court, and found it necessary shortly afterward to pass out of that judicial jurisdiction.

Paracelsus experienced in this particular what has been noted by a limitless number of other physicians. Enricus Cordus put the thing accurately in saying:

> Three faces wears the doctor: When first sought,
> An angel's; and a god's, the cure half wrought;
> But when, that cure complete, he seeks his fee,
> The devil then looks less terrible than he.

Bouvart attended a French Marquis during a long illness. One day the former called on his patient and the following conversation took place:

"Good day to you, Mr. Bouvart. I feel quite in spirits and think my fever has left me."

"I'm sure of it," replied the doctor; "your very first expression convinced me of it."

"Pray, explain yourself."

"Nothing more easy. In the first stage of your illness, when your life was in danger, I was your *dearest friend;* as you began to get better, I was your *good Bouvart;* and now, I am *Mr. Bouvart.* Depend upon it, you are quite recovered."

Paracelsus, after his sad encounter with the court, began another journey over some of the country he had formerly visited, receiving in each place but little support. The road was a hard one for him, and he found it a difficult matter to earn a livelihood. His constant contempt for the faculty gained for him renewed enemies, which extended to so much animus that, in some places, the surgeons were compelled to take an oath that they would not practice his methods.

Finally, settling at Salzburg in 1541, he is said to have received the injury which caused his death. He had visited an inn much frequented by members of the medical profession, and, giving offense to some of his colleagues, it is said that the servants pitched him headlong through the window, breaking his neck. His epitaph runs as follows:

"Here lies Philippus Paracelsus, the famous Doctor Medicinae, who, by his wonderful art, cured bad wounds, lepra, gout, dropsy and other incurable diseases, and, to his own honor, divided his possessions among the poor."

Theophrastus, living, had been unable to convince his confreres of his earnestness. Dead, he received the first acknowledgment of merit. "Truly," he said, "I shall accomplish more against you after my death than before"—a prophecy well fulfilled.

During his lifetime his teachings were scoffed at and condemned, and his differences of opinion brought him little else than scorn. Riches were not his portion, and at times his stubborn faith in his own methods kept him on the borderland of poverty.

Sadly he declared that "They who labor in the arts, if there were no trees, would have no shade."

He was out of gear with his age, a fault of most truly great characters, and, with the usual stubbornness of those who imagine that all the learning of a period is within their guardianship, the constituted authorities refused to grant that any of the existing knowledge could be improved upon. But to him there appeared a demand for reform. "Since I saw that the doctrine accomplished nothing but the making of corpses, deaths, murder, deformity, cripples and decay, and had no foundation, I was compelled to pursue the truth in another way—to seek another basis, which I have attained after hard labor."

This was an age of reform. Martin Luther had lived and died, and the crude German people were undergoing, with their neighbors, a period of spiritual awakening.

Theophrastus, with all his peculiarities, was, nevertheless, a great teacher. We have nothing to do with his oddities. We have no more right to judge of his real merit from his brusqueness or drunkenness than had his confreres from his unusual manner of dress.

Martin Luther simplified religion, and Paracelsus preached a simplification of medicine. The art was too complicated. Medicines were too complex. Hence arose his *simple recipes;* simple, because they contained a few drugs, as compared with the large number making up the Galenic prescriptions.

The extent to which this complexity had been carried may be surmised from the "Antidotus Magna Matthioli Adversus Venena et Pestem," which contained 131 ingredients. Well on into the next two centuries the armamentarium included "Mithradatium" and "Therica Andromachi," two compounds consisting, respectively, of 49 and 63 constituents; and such wonderful mixtures not only contained drugs, but included scorpions, wood-lice, vipers'

flesh, earthworms, bezoars' pearls, corals and a generous sprinkling of the excrement of man and beast.

No wonder, then, that Paracelsus asked "What man is so silly as to think that Nature has divided up her virtue: so much in the cabbage; so much in something else, and then orders you doctors to compound them!" And again, "The woman requires only one man to father her child; many seed only corrupt it. Mix many kinds of seed, and bray them, like an apothecary, and bury them in the earth; no fruit will come of them."

Like Hippocrates, he had great faith in the efficacy of nature, which he calls the "internal" physician. When a disease takes hold of an organ, every other organ comes to its aid to drive out the intruder. If their combined forces fail, then should come in the "external" physician, with his assistance.

As every disease has a remedy, he must find the appropriate one; if he does not do so, it is not because it does not exist, but that the physician is ignorant of its whereabouts. "Where there is a new disease, there you will find a remedy." To cure disease one should use similar remedies—*Similia Similibus,* or opposing ones, *Contraria Contraiis,* or any manner of remedies, it matters not which, so that the disease be remedied. For the great aim of the physician should be to bring about a cure. "If God will not help, so help me the devil!"

As regards the healing power of nature in surgery, he had advanced ideas. In all wounds there was a natural *balsam.* "Every surgeon should understand that it is not he who heals, but the balsam within the body is that which heals, and that wherein thou art a good surgeon is that thou offerest to nature defense and protection in the wounded part." It was the duty of the surgeon to protect this *balsam,* and nature would do the rest.

Theophrastus preached the greatest cleanliness in the treatment of wounds, and always lost his temper when speaking of the carelessness of the leading surgeons in this particular, which evidences his great superiority over his detractors and villifiers.

His investigations in lues caused him to divide the disease into local and general, primary and secondary, and in his treatment he upheld the efficacy of mercury internally, quite contrary to the methods in vogue, which consisted of inunctions (cobblers' grease, he calls it), fumigation, baths, decoctions of various woods and sweating.

It is not surprising that this remarkable man found so few allies if the dense vagueness of his phraseology is considered. However, the inhabitants of the middle ages apparently differed from many of those of our own time. For it would seem that now any exponent of an *ism* can gather innumerable disciples if he be but sufficiently vague in his language. In this particular Theophrastus would prove a veritable king of kings among them. For we find many of his medical doctrines so thoroughly impregnated with senseless and meaningless terms that it is with the greatest difficulty that many of his theories can be understood. For example:

He regales his students with such terms as *Yliaster, mysterium magnum, limbus major, limbus minor,* and the *ylides, yliaster,* of which the *mysterium magnum* and the *limbus major* are subdivisions. Finally, there results from this the *limbus minor,* which is only another name for the *original man.* Then, there is the *arcanum,* and, lest the reader is not yet quite foundered, he introduces another factor, the so-called *archaeus.*

What a delightful response would such a combination bring forth today at a meeting of Christian Scientists!

The "*mysterium magnum*" contains salt, sulphur and mercury, which he regards as the components of all metals. As a result of the different combinations of these three, there are formed air, water, earth and fire. Each of these has an active principle, which he terms the "archaeus."

Although there is so much of vagueness in the treatises ascribed to him, there is much of good sense and understanding. The virtue of a drug is the "arcanum," its valuable principle. The blossom produces the pear, but the delight of the fruit does not exist in the blossom. A blade of wheat follows the planting of the grain. The virtue is in the wheat, not the seed. Medicinals must, therefore, undergo a certain change before the arcanum, or useful principle, is evolved; and this is brought about as a result of the action of heat and a process of fermentation. In this way he defends his modernizing of alchemy, which, under him, is no longer a search for the philosopher's stone, but a stage of development of modern chemistry.

We must, therefore, give to Paracelsus the credit of broadening the field of materia medica and therapeutics.

It will be recalled that the Arabians were generally regarded as having first introduced chemistry into medicine; but Theophrastus can be said to have taken the matter up where they left it off. Thus he reintroduced the subject when it had already fallen into oblivion.

However critics may differ as to the permanent influence of Paracelsus, all concede that he was greatly instrumental in founding the Chemical School of Medicine, which has in different forms extended down to the present day.

He introduced certain mineral remedies, among which may be mentioned antimony. The use of this drug became a kind of badge to the followers of Paracelsus.

Advanced as Paracelsus no doubt was, he, nevertheless, at one period in his career, carried on a somewhat extended flirtation with magic, cabalism and astrology, although his later works prove that he was not always constant, for, in speaking of the earthquakes, mine explosions, etc., which were quite prevalent at this period and which were ascribed to the machinations of evil spirits, he declared that before the world perishes many things that were then attributed to the work of the devil would be found to be the result of natural causes.

At first he maintained that each part of the body stood in recip-

rocal relation to a star, and that the brain, heart, lungs, gall, kidneys and spleen had as their guiding influence the Moon, Sun, Mercury, Mars, Jupiter, Venus and Saturn; and he also described seven kinds of pulse that corresponded to these seven planets. But later he seems to have abandoned this astrological doctrine; for he says, as quoted by Russell: "Many children are born here and elsewhere at the same moment, and, therefore, under the same constellations, and yet of these the great majority turn out fools (*slanderous!*); and here and there only do we find one turning out wise and good. How, then, can we impute the folly of the many or the wisdom of the one to their stars? * * * Go to a battlefield, and you will find many men wounded under the same position of the heavenly bodies; but how differently does it fare with them! Would this be so if the stars controlled or indicated the effects of blood-letting?"

Perhaps his greatest innovation was his explosion of the existing doctrine of the humors. "What you call humors are not diseases," he declared. "It is the disease which makes these humors. How can a physician think to discover the disease in the humors, when the humors spring out of the disease? It is not the snow which makes the winter, but the winter the snow; for, although the snow is gone, the winter remains. You mistake the product of disease for disease itself."

It is difficult to find a reason to explain the great opposition Paracelsus created among his confreres. However much his doctrines differed from the accepted teaching of the day, his true worth surely must have made itself manifest to the faculty.

A reasonable explanation would perhaps be found in his personality. His arrogance and rough manners repelled, instead of attracted, and his very brilliancy thus became the means of engendering opposition.

And yet Paracelsus was by no means unique among notabilities in this uncouthness.

Pope was humpbacked; Goldsmith was bowlegged; Johnson was ill-mannered, and Gibbon was anything but a handsome man.

It is a misfortune such characters often possess, and, no doubt, explains why many of the truly great cannot always be properly judged until the physical deformity is a forgotten memory.

But Paracelsus, rough and disagreeable, nevertheless influenced the physician's art for good. He found a profession of copiers; he left it a faculty of investigators.

For many centuries medicine had received its nourishment from the Arabians. Then, with the introduction of a knowledge of the classics, the old Greeks became again the masters. Theophrastus, at one fell swoop, wiped them all out and introduced in their stead doctrines of his own. However much these fell short of perfection, they, nevertheless, served to replant the staid soil with the seed of doubt, which had the beneficent effect of producing new ideas and a crop of original researchers.

Current Literature.

REVIEW IN GYNECOLOGY AND OBSTETRICS.

Under the Supervision of A. Samuels, M.D., Baltimore.

HEBOTOMY.

What is the best method for delivering a patient with a flattened or contracted pelvis, with the minimum mortality to mother and child? This problem has been before the medical profession for quite a number of years, and even today there is a diversity of opinion concerning the best procedure.

It is the purpose of this paper to take up a recent operation that bids fair, from the clinical reports, to occupy a position intermediate between that of Cæsarean section and high forceps.

The operation naturally applies to only one class of obstetrical difficulties, namely, pelvic contraction and its associated evils in labor. Contraction of the pelvis to a serious degree is met with in one out of every twenty cases. The indication is an important one, especially as the majority of these cases fall into the hands of the general practitioner whose experience in surgical technic is limited. In many instances being far removed from a well-appointed operating-room, the consideration of Cæsarean section is out of the question. The only other alternative is high forceps or version. While limited entirely to this field, the operation of hebotomy is most useful in cases of pelvic contractions when the conjugata vera is less than 9.5 centimeters and more than 7 centimeters.

The operation of hebotomy has for its object the enlargement of all the diameters of the pelvis. This is accomplished by sawing through the pubic bone about an inch to the left or right of the symphysis. The operation was first performed by Van de Velde, and was taken up again in 1898 after Gigli and Burnhardt published their reports.

Technic of Operation: We have two methods of performing the operation. The subcutaneous and open methods. The so-called subcutaneous method consists merely in the introduction of a large curved needle, called a Doderlein's needle, through a very small puncture in the skin down to the pubic bone about two fingers' breadth to the left or right of symphysis, thence hugging the posterior wall of the bone; subperiosteously the needle is advanced until it is brought out beneath the lower edge of the bone outside the great lip. The needle carries down with it a silk suture, which in turn draws a Gigli wire saw, with which the bone is severed.

The open method is simpler and consists in an incision made down to the pubic bone the same distance from the symphysis to the left or right, as afore described. A corresponding incision is made underneath the ramus of the ischium at a point so situated

that the saw will not enter the obturator foramen, then the saw is passed through an opening made by blunt dissection from above, under the guidance of the forefinger, which is introduced into the lower incision under the ramus. If a Seeligman's hollow needle is used, which carries the Gigli saw down with it and acts as a guard while the saw is in action, the latter method is somewhat simplified. The only instruments that are needed are a scalpel, dressing forceps with a pronounced curve, and a Gigli wire saw. Of course, this does not mean that all other instruments that are usually carried in the bag of the obstetrician are to be left at home, but only these three are essentially required in the performance of a hebotomy.

Before taking up the dangers of hebotomy, I think it well to briefly consider some of the evil results of such contractions. Incorrect positions of the child are at least four times as frequent as in normal pelves, and these abnormal positions, while very common in primipara, increase in frequency in direct proportion to the number of labors. We very commonly find transverse positions, as well as presentations of face and feet, and associated therewith unusual mobility and pendulous abdomen.

In labor, prolapse of the cord and parietal bone positions readily occur. The labor is much prolonged, the membranes rupture early and infection frequently follows. Locally, the results may be very serious. The pains become powerful, and, failing to overcome the difficulty, the uterus may rupture. Every suggestive injury may happen when the head is forced through the pelvic ring with such force that it may injure a joint, usually the symphysis. The prolonged pressure of the head against the pelvic bone may cause necrosis of the intervening mucous membranes, with resultant fistula.

Tympania uteri may proceed, accompany or follow a local or general infection. To these must be added the consequences of operative interference, which are not always to be avoided even by the most skillful. Besides injuries to the mother, those to the child must also be considered. The most important are scalp wounds, caused by the advancements and rotation of the head. Then comes the spoon-shaped depressions, which generally are followed by death of the child in from 50 to 65 per cent. Fractures of the skull and vertebrae and hemorrhage into the brain are not uncommon. The severe pains cause a slow exchange of gas in the placenta, and the child may be asphyxiated. Strong pains may cause partial or complete detachment of the placenta, causing the death of the child. Fractures of the clavicle or humerus during manual extraction and Erb's paralysis must also be mentioned.

In a typical case the history is somewhat as follows: The patient regards labor as a physiological function, and calls for a doctor only when the pains begin. The labor is strong and painful. The woman exhausts her strength and vitality and becomes a fit subject for germ invasion. At length the crisis arises. Forceps are repeatedly tried, with little or no success.

If the head is still high up, version may be tried, and possibly the child may be successfully delivered. Not infrequently the child is born dead or dies shortly after delivery. More usually help is sent for, the condition of the woman calling for an immediate delivery.

Cæsarean section under such conditions usually results in the death of mother and child, hence, in behalf of the mother, craniotomy is done, and after a long and anxious puerperium the mother may survive.

Assuming the patient may be a primipara, her second pregnancy is awaited with terror by herself and husband, justly, and with anxiety and dread by her physician, who realizes how uncertain are her chances of securing a live child. The available resources for the physician are (a) Prochownick's diet during the last six weeks of pregnancy, in the hope of securing a small-sized child; (b) the induction of a premature labor at the thirty-fourth week; (c) axis traction forceps at term; (d) version and extraction at term; (e) Cæsarean section as an operation of election at term; (f) hebotomy at term either alone or in association with forceps or version, as the condition demands. The method to be chosen depends upon the degree of contraction as revealed by careful measurement. In many cases of moderate contraction, say with a conjugata vera of 9 centimeters or more, we can secure a marked diminution in the size of the child, and frequently obtain a living child after a relatively easy labor by means of a Prochownick's diet. In cases of very marked contraction Cæsarean section can alone be considered, and, if chosen as the operation of election, the very best results are obtained when the woman has not been subjected to frequent unsuccessful attempts to deliver her either by forceps or version. Between the extremes will be found a great majority of cases in which delivery has been attempted previously by induction of premature labor, by forceps or by version and extraction.

In relation to these methods it may not be amiss to quote a few figures, and from these we may learn why another operation such as hebotomy has been deemed necessary. The mortality of the child in cases of generally contracted or flat pelvis, where labor terminates without interference, is given by B. Winckel at 20 per cent. In labors artificially terminated we find the mortality for the child from version and extraction from about 35 to 60 per cent.; from forceps, from 35 to 60 per cent.; from premature labor, from 30 to 75 per cent. of the children die during or shortly after the delivery. Each of these methods has its advocates, who defend their choice with enthusiasm and much real reason. But no logic, reason or scientifically developed theories are of much avail when brought into comparison with figures taken from the best clinics during the antiseptic era. However, the fact remains that, whatever method is accepted, the chances are that one in three of the babies are lost and certain maternal injuries occur.

Neither reason nor logic can be consoling to the patients who

have lost their offspring, and even the hope thereof, nor to the physician who has fought with fate conservatively and judiciously against mechanical obstacles inertly superior to his best skill. Crushed by these results and by such a percentage of appalling fetal fatalities, operator after operator has made experimental excursions into other surgical fields in the hope of finding a way of diminishing this mortality. Cæsarean section for relative indications was one and symphysiotomy another result of such endeavors. The first has done great service and cannot be overlooked; but, owing to the serious after-effects and the changes attending its performance outside of hospitals, is not generally available. Symphysiotomy has had its day, and no doubt will be entirely supplanted by hebotomy.

The dangers of the operation compared to those of Cæsarean section and high forceps are small. However, some care must be exercised to avoid injuring the bladder and urethra. The open method is the better one. Under the guardianship of Seeligman's hollow needle, when the saw is carried two fingers' breadth to the outside of the symphysis, there is little danger of wounding the urethra, and with little care injury to the bladder may be easily avoided. The pelvic muscles prevent too great a separation of the bones. The bone should not be severed so far from the symphysis that the foramen is entered, for in this way one does not get the desired separation. Another danger connected with the operation is sepsis, but this does not occur with any greater frequency than in other cases of labor that are interfered with. Under the ordinary aseptic precautions sepsis should not occur more often in this operation than it does in high forceps. When sepsis does occur the responsibility rests upon the operator. Since the peritoneum is not invaded, it is not improbable that the operation can be done ultimately in septic cases.

Slight hemorrhage may occur, but this is usually controlled by pressure. Hematoma and edema of the vulva occur occasionally, but neither is serious. Laceration of the soft parts, especially the bladder and vagina, may occur when the head is delivered too rapidly. This will occur with less frequency if the woman is allowed to be delivered spontaneously, but when they do occur they must be treated like other lacerations of the birth canal that accompany labor. These injuries may be avoided many times by doing episotomy on the side to which the occiput lies.

Advantages of the Operation.—The woman is not kept in bed longer than two or three weeks and no sutures are required, no binder, no special after-care is demanded, and, so far as can be ascertained, no permanent sequelae have been reported from the operation. The woman works and does her work just as before. Sometimes, but rarely, a little pain is felt for a short time. Furthermore, something is accomplished from the operation. With a separation of 3 cm. between the ends of the bone, there is an enlargement of the pelvis in all its diameters of about 1 cm. This will permit a woman to deliver herself of her babe in most in-

stances without further interference, and if interference is required in behalf of the mother or babe, it may be undertaken in what is now a roomy pelvis, through which either forceps or version is likely to bring the child.

Admitting these dangers, they are not of so serious a nature as to counterbalance the good results which undoubtedly can be obtained from the operation. The most serious dangers are not those arising from the operation itself, but from the condition that calls for the operation, and in the majority of cases damage to the bladder usually results when the child is delivered quickly with forceps. When the indications are for an immediate delivery, injuries to the bladder are not liable to occur if a little care is exercised in delivering the child.

Schaffli (*Zeitschrift für Geburtschulfe und Gynakologie,* Stuttgart, Vol. LXIX, No. 1, p. 1223), from over 500 cases, finds the mortality of 4.82 per cent. for the mother and 9.18 per cent. for the children. Another advantage of hebotomy in cases when it is necessary to immediately deliver the woman is the general increase in all the diameters of the pelvis, and the child can be quickly delivered with either forceps or by version and extraction. Furthermore, after a hebotomy, from the general increase in the pelvic diameters, a second child may be borne alive without interference. Whether or not the prophylactic hebotomy done about the seventh month has any very decided advantages, considering the risks that it entails at this period, is an open question that remains to be proven from clinical experiences. At present it may be looked upon only as a possibility.

A great advantage comes from the fact that the bones are closed by fibrous union, which frequently leaves the pelvis larger than before in all diameters and ultimately ossifies in this condition, so that a subsequent labor may be normal. This permanent increase may amount to as much as 1.5 cm. in the diagonal conjugate, but may be as small as 0.25 cm. Also the operation may be performed at the patient's home, as it does not require an operating-room or a special bed or table.

Objections to the operation have been raised by some, who fear that the operation may be done by the incompetent. The same objection applies to a forceps operation. The operation may be undertaken too frequently, or when not indicated, merely as an aid to quicken labor. This is certainly true of forceps, and yet we do not hear the operation blamed for that, but rather the operator. The technique is extremely simple, much easier to understand and acquire than the forceps technique. But these objections do not counterbalance the facts that it is a desirable method of securing the delivery of 75 per cent. of cases with contracted pelvis with best results for mother and child. Difficult version and extraction and difficult forceps are reduced to a minimum, or, if done, will be done under the most favorable conditions.

WILLIAM H. WELCH, M.D.,
President.

MARSHALL LANGTON PRICE, M.D.,
Secretary.

HOWARD BRATTON, M.D. LOUIS A. GRIFFITH, M.D. JAMES BOSLEY, M.D.
DOUGLAS H. THOMAS, JR. HON. ISAAC LOBE STRAUS.

Under the Direction of the Secretary of the State Board of Health

MALARIA IN MARYLAND.

HYGIENE in these early days of the twentieth century is beginning to assume an importance in one aspect of public affairs which necessarily makes a deep impression on that class of citizens whose mental processes move almost wholly in that aspect of life. These citizens, whose brains revolve in orbits of greater or lesser amplitude about the American dollar, are speedily awakening to the fact that hygiene possesses very important commercial bearings.

The average citizen who now intends the purchase of a home for his wife and children demands, first of all, a good water supply and a sanitary method of sewage disposal. The average citizen who proposes to transfer his home and family to another and unfamiliar locality in another State is apt to ask, first, Is the locality healthful? second, Is it malarious?

To illustrate the commercial bearing of sanitation it is only necessary to cite the history of New Orleans. In an ideal situation as regards transportation facilities, placed so that it can command the trade of South America and the Antilles, with a mild, equable climate, and with the advantage of several hundred years' start over the other American cities, New Orleans could and would have been the greatest of American cities, if it had not been for the frequent outbreaks of yellow fever which have drained its resources and destroyed its commerce. In the future, when we can confidently expect yellow fever to be as rare in New Orleans as in New York, it will doubtless regain part of its lost supremacy.

It is perhaps more difficult to see why malaria should occupy such a large place in the imagination of the intending settler, unless it can be accounted for by its universal prevalence in the localities where it exists.

Those of us who have passed their fifth decade in the South can probably recall such localities as Mark Twain vividly describes in his "Life on the Mississippi—a small river town where the "yel-

low-faced miserables" sat huddled upon chairs or fences in attitudes of listless, dejected inertia, only broken by the vigorous shake of the daily chill, or the similar town described in Dickens' "Martin Chuzzlewit."

Much of the odium cast upon malaria in the past was doubtless due to the habit of shunting other continued fevers, especially typhoid fever, over into the convenient and easy "malaria" category, but there is little doubt that malaria did prevail extensively throughout the South, including Maryland, 50 years ago. That Maryland was then a "malarious" State is well known, but it is not so well known, that it is still classed in that category among many of the residents of other States, to the serious detriment of its commercial interests. Three times during the past year inquiries have reached the State Board of Health from intending settlers asking about the prevalence of malaria in Maryland.

These inquiries were received twice through the United States Public Health Bureau and once through the Maryland State Immigration Bureau. In each case careful examinations were made of the laboratory records and death files, and in each instance the results of the examination were to confirm, what the general practitioners throughout the State and chiefs of the dispensaries in Baltimore can testify to—namely, that malaria is now quite a rare disease in Maryland. The following letter, addressed to one of these inquirers, gives the evidence upon which this statement is based:

Mrs. ————————

Philadelphia:

Dear Madam—Your letter of June 13, inquiring as to the prevalence of malaria in the neighborhood of ————, Md., has been referred to me through the United States Weather Bureau and the United States Bureau of Public Health and Marine Hospital Service. The records of this office show 17 deaths returned as due to malaria from June 1, 1908, to May 31, 1909, distributed as follows:

In June, 1908, 2; July, none; August, 2; September, 1; October, 3; November, 2; December, none; January, 1909, none; February, 3; March, 1; April, 1, and May, 2.

In my opinion these 17 reported deaths represent in every case, an error in diagnosis on the part of the attending physician. I do not believe that there has been a death from malaria in Maryland since 1893.

An error in diagnosis is plainly apparent in the majority of cases on the death certificate, and such so-called cases of malaria are recorded as frequently in the winter months as in the summer and autumn. Malaria was quite prevalent in Baltimore during 1893, but since that time, for some unexplained reason, it has practically disappeared from the State.

During the year beginning May 1, 1908, and ending April 30, 1909, 270 specimens of blood were examined in the State laboratory for the diagnosis of malaria. Of these only two were positive. Of these two cases, one was reported from Oakland, Garrett county, in which there was a chill every second day, remittent fever, hematuria and jaundice, and the tertian malaria parasite was found in the blood. The other case was reported from Govanstown, Baltimore county, in which the symptoms were chill and remittent fever. The parasite was also found in the blood, but the variety is not shown by the records. The laboratory specimens are received from every part of Maryland, and, if malaria were at all prevalent it would at once

appear in our laboratory records. The table of the laboratory examinations which follows, will show the extreme rarity of malaria in this State:

MALARIAL FEVER EXAMINATIONS FROM MAY 13, 1908, TO JUNE, 1909.

Month.	Total No. specimens.	Positive.	Negative.	Suspicious.	Unsatisfactory.
1908—May	20	..	15	..	5
June	13	..	12	..	1
July	28	1	17	..	10
August	49	1	36	..	12
September	49	..	44	..	5
October	31	..	20	..	11
November	23	..	16	1	6
December	16	..	9	..	7
1909—January	15	..	9	..	6
February	7	..	5	..	2
March	7	..	7	..	..
April	12	..	6	..	6
	270	2	196	1	71

During the past five or ten years Dr. Wm. T. Watson has made a special investigation into the prevalence of malaria in Maryland. His inquiries have been addressed to the leading practitioners of various parts of the State, and those upon whose diagnosis most dependence could be placed. It appears from his investigations during this period that malaria is occasionally found on the Western Shore between Back River and the Patapsco River, and along St. Mary's River. Malaria is rarely found along the Susquehanna River, Bush River, Gunpowder River, Severn River, Patuxent River and the Potomac River below Washington. On the Eastern Shore malaria has occurred very rarely along the Choptank River, Wicomico River and the Manokin River. The Sassafras River, upon which ———— is situated, has, as far as we can learn, been exempt during this time. Your chances of contracting malarial fever in Maryland would be considerably less than in Pennsylvania, according to the records, inasmuch as Philadelphia reported 12 deaths from malarial fever in 1907, while for Baltimore city during the same period there were reported 10 deaths.

Hoping this will give you the information you desire,

Very truly yours,

MARSHALL LANGTON PRICE, M.D.,
Secretary.

Prevention of Typhoid Fever.—There is in medicine room for many differences of opinion in what are matters of conjecture. There should be no room in medicine or in any other science for differences of opinion as regards matters of demonstrated fact. Typhoid fever is one disease in which there is, fortunately, perfect unanimity among sanitarians, physicians, sanitary engineers and all others who have given the matter thought or attention, as far as its prevention is concerned. The essentials of prevention have been stated many times by many different authorities, but it can do no harm to quote Osler in this respect. Osler says: "To stamp out typhoid fever requires, 1st, *the recognition of all cases, including the typhoid carriers;* 2d, *the destruction of all typhoid bacilli as they leave the patient.*"

This means bedside disinfection in all cases of typhoid fever. While this seems simple, and is, in a sense, simple, it is only fair to point out the difficulties to be encountered in destroying all

typhoid germs as soon as they leave the body. The greatest difficulty which has been encountered so far is the fact that in recent years we have found that a considerable number of persons following an attack of typhoid fever continue to excrete typhoid bacilli for some time after the attack, apparently in some instances for life. We have also discovered that many attacks are mild, and that probably in 50 per cent. of typhoid infections the patients are not sick enough to go to bed or to have medical attention.

These facts are not as discouraging, however, as they appear, because there seems to be some relation between the severity of the attack and the number and virulence of the bacteria discharged. If effective measures were taken by the attending physician in the cases confined to bed and under medical advice, it is very probable that not less than 75 per cent. of the needless sickness and death caused by typhoid fever would be prevented.

The best means to secure bedside disinfection in cases of typhoid fever confined to bed and under medical care have already been pointed out in an interview in one of the Baltimore papers (the Baltimore *Sun*, July 24). These are an application of the principles of the tuberculosis law, which originated in Maryland and has since been adopted by a number of other States. Such a law should provide (*a*) The fixing of the responsibility for the protection of the community, in part, upon the physician. (*b*) The issue of standard disinfection packages by the State free of cost, containing the materials necessary to disinfect the discharges, bed linen and crockery, also mosquito bars for the bed. (*c*) Adequate remuneration for the physician from the State for the necessary measures of prevention.

The great difficulty with bedside disinfection as at present practiced is that it is so often inefficient. Disinfection of typhoid discharges requires a large volume of a good disinfectant, thorough mixing and prolonged contact for not less than 24 hours if possible.

The following method of disinfection, devised and used by Dr. Edward E. Lamkin of Nanticoke, is to be highly commended on account of its efficiency, simplicity and cheapness. It is, in particular, admirably adapted to use in country districts:

"Buy or borrow an ordinary boiling kettle and either suspend it from a pole or place it on bricks. This is to be used as a receptacle for all excreta from the patient, urine, feces, vomit, etc. (and sputum, Ed.). Build a fire around and under it, until only the black pot and the gray ash of its contents remain. The operation of firing is practiced twice in 24 hours."

Dr. Lamkin also justly criticises the usual domestic method of disinfection:

"Disinfectants may be used also, but, believe me, the average household is only too content to believe that a mere dash of crude phenol is all sufficient and hurl the less-than-half sterile mass in the garden, or those more ceremoniously inclined, dig a four or five-foot hole as a repository for all excreta, never thinking and seldom caring whether the substratum drains or inclines the surface water to their pump or that of their neighbor."

It cannot be too strongly reiterated that, as far as the prevention of typhoid fever is concerned, our present elaborate sanitary machinery is only necessary because of the failure of proper disinfection of the typhoid discharges at the proper point—namely, the bedside of the patient.

The Fly Problem and Typhoid Fever.—Flies undoubtedly account for a considerable amount of typhoid fever between June and October in Maryland. Proportionately, they cause the greatest amount of sickness and death where methods of sewage disposal are bad and the conditions favorable to breeding them. The fly problem cannot be solved like the mosquito problem by intelligent effort in one community. The fly can and does migrate for considerable distances in search of food and breeding places. We have observed in the mountains of North Carolina flies in considerable number on the tops of mountains, where their only source of sustenance could be the lunches carried by picnic parties. One of these mountains had an elevation of 5000 feet and was some distance from any human habitation. Concerted effort is therefore necessary through State-wide law, custom or regulation to rid the citizens of flies. The case of Fort Howard may be cited as an example of a community under strict and efficient regulation. In this place garbage is not only carefully disposed of by cremation or lime treatment, but the garbage cans are provided with locks.

This protection has been absolutely of no avail to Fort Howard, as the night-soil pits in the neighborhood breed quantities of flies which infest the fort. Flies are not only the means of conveying typhoid fever in many instances, but they have been found to convey Egyptian ophthalmia frequently, and probably less frequently to convey other infectious diseases, such as tuberculosis, diphtheria, cholera and scarlet fever. It is probable from the history of a few isolated cases of smallpox, in unvaccinated infants, in the neighborhood of pesthouses, that the virus was conveyed by flies either to foods or, as appears in one instance, by direct inoculation through a bite. For these reasons one of the important problems of sanitation is the destruction of the fly. Measures to destroy the fly may be directed against it during any of the phases of its life history. These measures may, however, be divided into two classes: 1st. The destruction of the fly in the egg or larval stage. 2d. The destruction of the fly in the adult or "imago" stage. The simplest method of destroying the fly is to deprive it of the food in which it breeds. The eggs of the fly are deposited in almost any refuse of organic origin, decaying animal or vegetable matter. The eggs are deposited in clusters, and hatching is facilitated by the warmth generated in the decomposing material. Under favorable circumstances the eggs hatch into maggots in a few hours. The maggots seek a dry place in about two weeks and become pupae. After another week or two the fly emerges full-blown.

Breeding Places of Flies.—The most frequent breeding place for flies is probably horse manure. The heat of the decomposing mass

facilitates growth as well as the organic materials of the manure itself. Stables are probably the worst source of the fly nuisance. Garbage cans rank next in order. The decaying bodies of animals are the richest material for fly breeding. Anyone who has observed the number of maggots which can breed in a dead horse, for instance, will realize that the term "alive with maggots" is no fanciful one. The same condition can often be observed in fly-blown cheese. Country privies are also a breeding place about on a par with garbage cans. The dangers of the direct transference of infection are here, of course, greater than in garbage cans and the bodies of dead animals. Badly treated wounds also often become infested with maggots. In the wilds and jungles, the bodies of wild animals probably suffice to keep the fly active.

Destroying the Breeding Places of Flies.—A great deal can be done to prevent the domestic breeding of flies by destroying garbage and other organic refuse by fires or special crematories. The breeding of flies in privies can be checked by the use of earth or ashes, and prevented by the use of lime. The sprinkling of either of these materials will prevent largely the danger of infection through flies with the intestinal diseases. Garbage cans should be kept constantly covered and, if necessary, locked, and frequently sprinkled with lime. A barrel of lime is, in fact, an excellent hygienic investment for any home.

Destroying Dead Horses and Other Dead Animals.—Dead horses and other larger dead animals give local health officers more trouble, perhaps, than any other form of carrion. Not only is it expensive and troublesome to carry the dead animal away to decompose in some distant place or bury it, but there is frequent contention as to who is the proper officer to dispose of what is always an intolerable nuisance and which breeds flies literally in millions. The following suggestion of Dr. Harry G. Simpers, Health Officer of Kent county, will be very welcome to the communities which in the past have had to endure the nuisance produced by a dead horse or dead dog. Dr. Simpers' method is to saturate the body of the horse with kerosene and apply a match. The combustion is aided by a few old fence rails. Dr. Simpers states that nothing remains after the combustion but some bones and a few ashes.

Night-Soil Fertilizer Another Cause of Typhoid Fever.—Human excrement has been used in China from time immemorial in the intensive cultivation of growing vegetables. It has undoubtedly been of great economic value as far as its fertilizing powers are concerned. China has, however, paid the cost of its methods of fertilizing, many times over in the lives of its inhabitants. It is likely that the constant prevalence of typhoid fever, cholera, Cochin China diarrhea, tapeworm and hookworm disease, is due mainly to this intensive method of cultivation. The use of night soil for fertilizing purposes has become in recent years an urgent problem in the neighborhood of Baltimore, especially in the "Neck district." Baltimore city, as is well known, has no general sewage system, and the bulk of its sewage (with the exception of a few private

sewers discharging into Jones' Falls) flows into numerous cesspools which have been dug throughout the city.

The contents of these cesspools is pumped out at frequent intervals, and conveyed by barges to the "Neck," where it is distributed over the growing crops by wagons similar to the street sprinklers. The complaints of the nuisance produced have been so numerous, and the danger to the inhabitants of the State, and particularly of Baltimore city, so great, that the State Board of Health was impelled to issue regulations covering the point on June 2, 1909. Fortunately, the influential farmers of the "Neck" have realized the necessity for regulation of the use of night soil, and have given both their interst and co-opration to fulfilling the orders of the board. These regulations, still in effect, without amendment, are as follows:

REGULATIONS GOVERNING THE USE OF NIGHT SOIL FOR FERTILIZING GROWING VEGETABLES.

In accordance with an order of the Board passed June 2, 1909, the following regulations are hereby promulgated regarding the use of night soil for fertilizing growing vegetables:

1. The use of night soil for growing vegetables will be allowed when the night soil is mixed with at least an equal volume of lime, earth or other inert material, and covered with at least two (2) inches of earth.

2. The sprinkling of growing vegetables with night soil or the bringing of such vegetables directly into contact with night soil in any other manner is forbidden.

3. Vegetables grown in violation of these regulations are hereby declared diseased, unsound and unwholesome, and all such vegetables and crops will be condemned and destroyed by an inspector of the Board, in accordance with the provisions of Section 129 of Article 43 of the Code of Public General Laws, and whosoever shall sell such vegetables or crops in violation of the orders and regulations of the Board shall be subject to the penalties provided by the said Section 129 of Article 43.

By order of the Board. MARSHALL LANGTON PRICE, M.D.,
Secretary.

Exposed Sewage.—The discharge of sewage upon the surface of the ground, the overflowing of cesspools and other methods of sewage disposal which expose sewage to the access of flies and to transference by the shoes of casual passers-by, constitutes an unsanitary nuisance dangerous to public health and which should be restrained. The courts of the State should regard such "exposed sewage" as a nuisance *per se* and to be restrained by injunction or restraining order from the health authorities. The discharge of sewage into streams of insufficient volume also constitutes a like nuisance. The nuisance caused by the latter class of cases may be very far-reaching. Such is the case with the streams flowing through some of the suburban districts in the neighborhood of Baltimore. Coincident with the determination of the health authorities of Baltimore city and the State to abate such nuisances, the installation of sewage plants has begun in the suburban districts. The following standard has been established by the board

for sewage effluents discharged into streams not used for drinking or domestic purposes:

GENERAL ORDER NO. 2—STATE BOARD OF HEALTH OF MARYLAND, 10 SOUTH STREET, BALTIMORE.

STANDARD FOR SEWAGE EFFLUENTS DISCHARGED INTO STREAMS NOT USED FOR DRINKING OR DOMESTIC PURPOSES.

In accordance with an order of the Board passed June 2, 1909, the following standard is hereby established for sewage effluents discharged into streams not used for drinking or domestic purposes:

Materials in suspension not to exceed 50 parts per million; the effluent without filtration or other treatment must be nonputrescible, according to the methylene blue test recommended by the Committee on the Standard Methods of the Chemical Analysis of Water and Sewage of the American Public Health Association, which test shall be made as follows:

One c. c. of a 10 per cent. solution of methylene blue is added to 250 c. c. of sewage effluent in a glass-stoppered bottle. The methylene blue should be added immediately after collecting the sample. The bottle should be completely full after inserting the glass stopper, and the sample should then be incubated at 37 degrees Centigrade. If the blue color is eliminated before 96 hours, the sample is putrescible; if the blue color remains at the end of 96 hours, the sample is nonputrescible. The discharge of sludge or any part thereof into the stream is forbidden.

Official::

C. W. G. ROHRER,
Medical Assistant.

MARSHALL LANGTON PRICE, M.D.,
Secretary.

MEDICAL SOCIOLOGY. By J. P. Warbasse, M.D. New York: D. Appleton & Co. 1909.

Once upon a time a philosopher went out to fight an evil giant who had for generations terrorized the nations and filled brave men with despair. The philosopher, who considered swords and shields silly superstitions, "went to nature" and got him a piece of hollow wood with a stick to fit its bore. Having chewed up some pages of theories of other philosophers, he rammed blobs of them into the other end of his hollow popgun and fired away with great confidence at the giant, who, not knowing he was hit, made no defense. When asked if he had slain the giant, he said, "Not yet, but if everyone were taught in childhood the use of this simple weapon, the race of giants would undoubtedly soon cease from earth."

That is the way this book impresses us. Negative criticism and platitude—more platitude—a gradual petering out into half-page chapters of platitude and grandmotherly exhortation.

If this is "Medical Sociology," it must be a very feeble science indeed. The regular medical-manuscript reader of the publishers was probably away when the thing was accepted.

A man has a right to publish genuine thought, but he should have something new to say, or say it better than it has been said, and when he fills his chapters with conceited criticisms of everything in sight, he must not expect kindly treatment.

DEPT. OF PUBLIC SAFETY
SUB-DEPT. OF HEALTH

JAMES BOSLEY, M.D., Commissioner.
C. HAMPSON JONES, M.D., Asst. Commissioner.
THOS. L. RICHARDSON, M.D Asst. Commissioner, Quarantine.
M. HARRY LAIB, Secretary.

Bacteriological Laboratory:
WM. ROYAL STOKES, M.D., Director.

Chemical Laboratory:
W. E. HOFFMAN, JR., Ph.D., Director.

This Department is Under the Direction of the Commissioner of Health

THE BACTERIOLOGICAL EXAMINATION OF WATER.

THE bacteriological examination of water, as well as the method and what it implies, seems to be, at least in the minds of some physicians, rather obscure, and I think a brief article elucidating the method, object and results will be of value. Since most of the ordinary courses in bacteriology do not give any definite method, and at most run over it lightly, I will give the method of the City and State Boards of Health, which is not only adequate, but one of the best methods now in use.

Of course, all the water examined should be collected in sterilized bottles, and to do this the department has each morning a certain number of glass-stoppered bottles sterilized in the hot-air ovens, which are sent in water boxes, with directions as to gathering and shipping the samples obtained. The water boxes are divided into 10 small compartments, each one being a receptacle for one bottle, and in the center of these 10 compartments we have a water-tight space for ice, by means of which the water is kept cold and the rapid growth of organisms prevented. When this reaches the laboratory it is placed in the ice box at a temperature of 42° F. until convenient to be examined.

In the ordinary routine examination of water the object is primarily to detect the presence of intestinal pollution, whether it be direct or indirect. To do this we look for the organism, which at all times exists in the intestine of man and most warm-blooded animals in greater numbers than any other organism. This is, of course, the colon bacillus. When this organism is found in a sample of water, it is pronounced bad, since any well that has these bacilli draining into it might contain any pathogenic organisms, especially those from the intestinal tract, as the typhoid

bacillus, spirillum of Asiatic cholera, ameba coli, bacillus of dysentery, paratyphoid bacillus, etc. The ideal procedure, if possible, would be to isolate and identify all species of organisms plated from the sample obtained, but such a procedure is impracticable, not only on account of the great amount of labor and length of time required, but also the great number of varieties and subvarieties of bacteria, which are almost impossible to classify.

In the examination of water the quantities used are, as a rule, 1 and 10 cubic centimeters, each quantity being put into a fermentation tube containing lactose bile, a medium which inhibits the growth of most organisms except the colon and typhoid bacilli and permits gas formation with the colon bacillus. This is then put in the incubator from two to four days to allow maximum fermentation to take place. Simultaneously 1 c. c. of the water is placed in a sterile Petri dish and a tube of gelatine poured in, after which it is placed in a compartment in the ice box at a temperature of 50 to 60° F. and allowed to incubate three or four days to allow the full development of the water organisms, after which it is taken out, the organisms counted and the result read as so many per cubic centimeter. In city drinking water containing less than 500 bacteria per cubic centimeter it is passed as good; from 500 to 1000, fair, and over 1000, suspicious when the colon bacillus is absent. After the bile fermentation tubes have been in the incubator a sufficient length of time for fermentation to have taken place the percentage of gas is read and recorded. If no gas is present, the water is pronounced good, as the absence of fermentation indicates that no colon bacilli are present. This is called the presumptive test, and when fermentation has taken place a thorough search for colon bacillus is made. First, a loopful of the lactose bile in which fermentation has taken place is passed through three tubes of sterile water and then into a tube of lactose litmus agar, and poured into a sterile Petri dish and incubated 24 hours, after which colon-like colonies are picked and inoculated into another tube of melted lactose litmus agar, and again incubated and fermentation looked for, and if found is inoculated into final media. The final media consists of a fermentation tube of lactose bouillon, a tube of gelatine and one of litmus milk. These are incubated for four days at 37° C., after which final readings are made. Colon bacilli fermenting lactose bouillon 20 to 80 per cent., acidifying and coagulating litmus milk, and not liquefying gelatine.

The result of this examination is read as follows:

Bad in the presence of the colon bacillus, irrespective of the number of bacteria per cubic centimeter.

Suspicious when the bacterial count reaches 1000 or more to the cubic centimeter or when the presumptive test is positive, but the colon bacillus is not isolated in pure culture.

Fair when no fermentation takes place in the presumptive test and the bacterial count is between 500 and 1000 per cubic centimeter.

Good when no fermentation takes place and the bacterial count is below 500 bacteria per cubic centimeter.

There are quite a few organisms other than the colon bacillus which cause the fermentation of lactose bile, and in the final inoculations prove to be the bacillus lactis aerogenes, bacillus gasoformans, and occasionally the bacillus galactophilum. These organisms have all been found in the intestinal tract and feces of man, and deserve in a measure to be placed in the same relation to water contamination as the colon bacillus. Probably the only reason for not doing so is that they are not constantly present like the colon bacillus.

Samples of water are often sent to the department for the isolation of the typhoid bacillus without the fact being known that these bacilli have only been found in a very few instances by competent observers from large sources of drinking water, and that, as a routine measure, the isolation of the typhoid bacillus is practically impossible.

Although it has been estimated that 75 per cent. of typhoid epidemics are water-borne, up to 1905 the typhoid bacillus has only been isolated six times by competent observers, *i. e.,* according to the specifications of H. S. Wilson in the *Journal of Hygiene,* Vol. V, No. 4, 1905.

FREDERIC V. BEITLER, M.D.,
Assistant Bacteriologist.

PRACTICAL DIETETICS. Thompson. Fourth edition. Cloth, $5. New York: D. Appleton & Co. 1909.

All too little is known by the average practitioner about diet in disease. In most schools drugs and their methods of administration are succinctly enough taught, but, somehow or other, the authorities expect the embryo physician by divine instinct to know how to diet and modify the food of his patient. In this book one finds the best foods to be given in disease. Special progress has been made in the dietetic handling of typhoid fever, chronic nephritis, intestinal autointoxication and the gastrointestinal disorders of childhood. The author also devotes space and especial attention to the preparation of food. The scope of the book and the contents may be briefly catalogued as follows: Part I, Food and Food Preparations; Part II, Stimulants, Beverages, Condiments; Part III, Food Preparation and Preservation; Part VII, Administration of Food for the Sick; Part VIII, Diet in Disease; Appendix, Receipt for Invalid Food and Beverages Suitable for Fevers and Convalescence from Acute Illness. Such is the scope of the book, which cannot help being of benefit to the worried doctor wracking his brain to provide a suitable dietary for his patient, but of which torment he may from now on be free if he has in his possession Thompson's "Dietetics."

MARYLAND LUNACY COMMISSION.

ARTHUR P. HERRING, M.D., Secretary.
HENRY M. HURD, M.D. HUGH H. YOUNG, M.D. JOHN D. BLAKE, M.D.
R. MARKLEY BLACK, M.D. ATTORNEY-GENERAL ISAAC LOBE STRAUS, ex-officio.

This Department is Under the Direction of the Secretary of the Commission

THE TENTATIVE ESTIMATE OF THE COST OF COMPLETE AND INCOMPLETE STATE CARE OF THE DEPENDENT INSANE.

THE cost to the State for maintaining all of the indigent insane (at $200 per capita a year) and erecting buildings at Spring Grove and Springfield to house about 2500 insane, as well as a new hospital for the negro insane, would be over $1,000,000 during the next two years. It is hardly possible that the State Treasury will be in a position to expend this amount of money at the present time. The details of complete State care are presented in Table 1.

Realizing that we cannot expect to obtain the ideal plan at once, it was deemed advisable to prepare a compromise plan which would be a decided step forward and would vastly improve the present conditions by adopting the suggestions embraced in Table 2, which shows the cost of incomplete State care. The plan will cost a little over one-half the amount required for complete State care.

The incomplete State care requires the counties and Baltimore city to pay $100 (instead of $150, the present cost) to the State Auditor for the maintenance of all indigent insane from the respective counties and Baltimore city; the State to pay the other $100, making the per capita cost $200 per year for the present. (This can no doubt be decreased as the number of insane increase in the State hospitals.) The State Auditor will then pay direct to each hospital the amount necessary for the yearly maintenance at the rate of $200 per capita. The erection of new buildings will, of course, be provided by the State, as heretofore.

Another very important feature of this plan will be that the State Lunacy Commission will have the power to transfer the insane from almshouses, jails and county asylums direct to State hospitals. The Lunacy Commission will also have the power to transfer incurable cases upon the written request

of their relatives from State hospitals to properly equipped county asylums. The State will then pay to the county asylum $75 a year for the maintenance of each patient transferred. These county asylums will, of course, be under the direct supervision of the Lunacy Commission, and will be required to maintain a uniform and high standard of custodial care. If this plan is effectively carried out it will only be a matter of a few years (or until the State has provided sufficient buildings) when the State will be in a position to assume the entire cost of maintenance, thereby relieving the counties and placing the burden where it rightly belongs.

INCOMPLETE STATE CARE.

State, $100 per capita a year.
County, $100 per capita a year.

Springfield, 1200 patients at $100 a year	$120,000
Spring Grove, 600 patients at $100 a year	60,000
Mt. Hope, 300 patients at $100 a year	30,000
Negro Hospital, 300 patients at $100 a year	30,000
Total, 1 year	$240,000
Total, 2 years	$480,000
Less 1 year maintenance for Negro Hospital	30,000
	$450,000
Cost of new buildings	205,000
Grand total	$655,000

Estimated Cost to State of County Asylum for Chronic Cases Under State Supervision.

$75 per capita a year.

Montevue, 100 patients	$7,500
Sylvan Retreat, 100 patients	7,500
Cherry Hill, 30 patients	2,250
Bellevue, 40 patients	3,000
Queen Anne, 15 patients	1,125
Total, 1 year	$21,375
Total, 2 years	42,750
Total cost of maintenance in State hospitals and new buildings	$655,000
Total cost to State to county asylum for chronic cases	42,750
Grand total for 2 years, about	$700,000

COMPLETE STATE CARE.

BASED ON THE POPULATION ENDING AUGUST 31, 1909.

Estimated Cost of Maintenance and Erection of New Buildings for the Indigent Insane.

Maintenance, $200 per capita a year, white.
Maintenance, $150 per capita a year, negro.

Maintenance—One Year.

Springfield—1200 patients at $200 per capita (maximum number, 1200 patients)	$240,000
Spring Grove—600 patients at $200 per capita	120,000
Mt. Hope Retreat—300 patients at $200 per capita	60,000
Negro Hospital—300 patients at $150 per capita	45,000
Total, 2400 patients, one year	$465,000
Total, 2400 patients, two years	930,000

1 cent State tax, $80,000. Total State tax for insane, about 12 cents.

Estimated Cost of New Buildings for Complete State Care.

Springfield—		
2 cottages, 1 male, 1 female, at $25,000	$50,000	
150 patients, $300 per bed.		
2 bungalows, 1 male, 1 female, at $10,000	20,000	
100 patients, chronic cases.		
Total		$70,000
Spring Grove—		
New south wing, 3 stories—female industrial shop, infirmary, dining-room	$50,000	
Bungalow	10,000	
Total		60,000
Negro Hospital—		
New land and buildings	$75,000	
Total		75,000
Grand total		$205,000
Extra—		
2 cottages, Springfield	$50,000	
Reception building, Spring Grove	50,000	
Total		100,000
Grand total		$305,000
Total appropriation for insane in 1910-11—		
Maintenance		$930,000
New buildings		305,000
Total		$1,235,000

Book Reviews.

TUBERCULOSIS. A Treatise by American Authors. Edited by Arnold C. Klebs. Cloth, $6. New York: D. Appleton & Co. 1909.

In this book, a very large monograph of more than 800 pages, with some fifty-odd additional pages of bibliography, Klebs and his associates have presented the all-absorbing subject of tuberculosis from every aspect. No single phase of the subject is neglected, each and every one being presented by such experts as Mazyck (Etiology), Ludvig Hektoen (Histogenesis and Fate), Edward R. Baldwin (Resistance and Immunity), Arnold C. Klebs (Frequency), etc. The book is a masterpiece and absolutely indispensable to the progressive physician. It is well written, upon good paper, and the presswork could not be better. The engravings are numerous, some colored, and exceedingly instructive. Every page is teeming with information. The chapters upon symptomatology (subjective and objective signs), examination and diagnosis of pulmonary tuberculosis especially appeal to the reviewer. The chapter upon the sociologic aspect of tuberculosis by Knopf is calm, judicial and fair both to the consumptive and the non-consumptive. He especially deplores phthisiophobia, both Federal and State, and urges a more rational feeling to these unfortunates, there being no real danger from a well-conducted sanatorium, consequently not an iota of reason for the prohibition by municipalities of their establishment in their midst. Some 50 pages are devoted to the varieties of tuberculin, its chemistry and modes of administration, every detail of which is minutely explained, such as the dosage, the interval and the time of injection. There are so many good and novel features to this book that it is possible for the reviewer to call your attention to only a few, he having merely scratched the surface.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Original Articles by Leading Medical Men Throughout the World. Volume III. Nineteenth Series. Philadelphia: J. B. Lippincott Company. 1909.

There is one Baltimore contributor, Dr. Davina Waterson, who gives a short article on Mesmer and Perkins' tractors.

Several contributions deserve especial attention. Dr. Dieulafoy of Paris treats of gonorrheal septicemia, giving a number of cases in which the fatal course of the disease was almost exactly like enteric fever. Dr. Leo Buerger of Mt. Sinai Hospital, New York, discusses a disease of the veins of the limbs comparatively new to physicians of America. It occurs in Russian and Polish Hebrew adult immigrants, and is characterized by the formation of hard cords along the veins or by erythematous eruptions over their course. It may be either evanescent or permanent, local or wandering, and may end in gangrene. At times patients who have

had only leg cramps may, on amputation of the limb, exhibit obliteration of the veins. Dr. Paul G. Woolley of Omaha presents a valuable review of the exotic dysenteries, especially those produced by Asiatic parasites, a few of the snakes that appeared after our imperialistic jag of a few years past. These diseases, like Asiatics, are all so much alike that it takes a microscope to differentiate them, but our physicians must not fall into the habit of thinking that all dysenteries are either from Shiga bacilli or amebæ. In several of those forms described "treatment is useless," "prognosis hopeless," but some may be cured by parasiticides, such as are useful for the expulsion of worms.

Practice of Medicine. By William Osler. Seventh edition. Cloth, $5.50. New York: D. Appleton & Co. 1909.

Since the last edition of Osler's "Practice," now more than three years ago, many additions have been made to our knowledge of disease. In order to bring his book up to date Dr. Osler has found it necessary to recast much which he had written before. He has incorporated the latest work and discoveries in syphilis, trypanosomiasis psorospermiasis, cerebrospinal meningitis, Malta fever, a contribution on "carriers," etc. As formerly, it is the best general medicine in existence. The etiology, diagnosis and morbid anatomy, as in previous editions, cannot be excelled, but from a student's and general practitioner's standpoint treatment is handed out as grudgingly as ever. The section on diseases due to protozoa is very interesting and instructive. Here are included short chapters on psorospermiasis; amebic dysentery; trypanosomiasis, or sleeping sickness; dum-dum fever, or kala-azar; distomiasis; intestinal cestodes, and other diseases due to animal parasites. This last edition, being so full of good things, renders it more imperative than ever that every practitioner of medicine be possessed of it.

Clinical Treatises on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation. By Prof. Edmund von Neusser, M.D., of Vienna. Part III. Angina Pectoris. New York: E. B. Treat & Co. $1.

The author presents the subject concisely and completely, and sums up our present knowledge of the disease in this little work. The reader is convinced that Professor Neusser's conclusions, while not the last word on angina pectoris, are authoritative of its present status.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. Gout. By Prof. H. Strauss, Berlin. New York: E. B. Treat & Co. Price $1.

This is a work that should be of interest to physicians for its broad handling of a little-understood disease. One-third of the book is given over to therapy, an especially important and valuable part being a chapter on the value of foods in gout.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D. *Editor*

Associate Editors:

THOMAS R. BROWN. M.D. | JOSE L. HIRSH, M.D.
HUGH H. YOUNG, M.D. | ALEXIUS MCGLANNAN, M.D

NATHAN WINSLOW, M.D., *Managing Editor.*

BALTIMORE, OCTOBER, 1909

THE CYCLIC DOG QUESTION.

AMERICANS, through some unfathomable reasoning, believe they inherit certain inalienable rights, amongst which is the freedom of the city for their pet dogs. Of what import is it that the dog's nightly moon-wailing disturb their neighbors' slumbers or its barking unnerve the sick? Is it not their dog and their inalienable right to possess such a treasure unmolested? What if their pet does bite an unsuspecting and innocent bystander—aye, perhaps infect him with that dreaded but oft-scoffed-at and imaginary rabies? Even with increasingly frequent and terrible examples ever before them, the Americans are prone to hoot hydrophobia as a myth merely in the imagination of the dogphobias. These unbelievers should be given an object-lesson by taking them within the walls of a Pasteur institute and shown patients suffering with hydrophobia; then maybe they could comprehend that rabies is indeed an entity. Only too regularly the daily papers of late have been heralding the necessity of some unfortunate individual or individuals being compelled to take the Pasteur treatment in order to ward off possible hydrophobia. The regularity is becoming monotonous. How long will our patience be tested? There are plenty of laws upon the statutes regulating the residence of dogs in the city, but they are religiously evaded. Here in Baltimore a dog upon the streets is supposed to be either muzzled or held in leash by the owner. These measures would seem to insure safety to pedestrians, but they do not. The muzzling law is a farce, many of the muzzles offering no protection to the public from attacks. The only way of handling the question is to prohibit the harboring of canines within the city, or, if this is not deemed

advisable, the imposing of a license sufficiently high to eliminate the vast majority of the horde, together with a law forbidding their presence upon the highways without being safely muzzled and in leash, with the penalty of death to any transgressing dog.

DIRECT SPLINTAGE IN RECENT FRACTURES.

During recent years marked progress has been made in the management of imperfectly reduced fractures. This has become practicable through aseptic surgery and the introduction of the Roentgen Rays. Formerly operation was practised only for non-union, vicious union, badly comminuted or poorly reduced compound fractures; simple fractures were religiously left alone, owing doubtless to fear of sepsis. Today the old practice of non-interference would not be considered good surgery, as the X-ray informs us whether the fragments are or are not properly adjusted. If much overlapping or displacement exists after attempted reduction the bone must be brought by operation under the direct inspection of the surgeon, and immediate treatment instituted. Operative interference should be invoked, however, only in selected cases, having especial regard to the bone involved, the amount of deformity, and the ultimate disturbance of function. It must not be forgotten that visible deformity often gives rise to no interference with function. Operative treatment of recent fractures has made rapid strides, and many an individual who would previously have but an imperfect now is assured of a good result both anatomically and functionally.

NORTHWEST MEDICINE.

The Maryland Medical Journal is always glad to note, encourage, and give publicity to improvement in the tone and quality of one of its sister journals. Instead of the eighth number of Northwest Medicine we were agreeably surprised to receive Volume 1, Number 1, new series, of an enlarged volume of the same name, with the additional information that it is owned and published by the State Medical Associations of Washington, Idaho and Oregon. It is well edited, and printed on good paper. We congratulate the editor upon the magnificent appearance of his first number and wish him much success in his enlarged sphere.

Medical Items.

With the utmost regret the editor announces the severance of the connection of Dr. H. M. Cohen with the Journal as associate editor, in charge of the department of medicine. Although only a recent addition to the staff, Dr. Cohen has edited his department with such rare ability and skill that we feel assured that the loss of his valuable services will be missed alike by the editors and readers. In addition to his editorial work, he has contributed a series of articles on the history of medicine; these will continue to appear from time to time, as heretofore.

Hyman Maurice Cohen was born in Crisfield, Md., on December 25, 1874. He received his education in the public schools of Maryland and at Dickinson College, securing his degree of M.D. from the College of Physicians and Surgeons of Baltimore class of 1896, and is now connected with that institution as associate in tropical medicine. In 1898 Dr. Cohen gave up active practice in Baltimore and spent the ensuing five years in the Philippines as captain and assistant surgeon to the Nineteenth Infantry. He has now been appointed as first lieutenant in the Medical Reserve Corps and will leave on October 1 for his station, Fort Rodman, Mass.

John Ruhrah, M.D., is working on a report on pellagra.

Harry Friedenwald, M.D., has returned from a trip abroad.

Diplomas were issued to three graduates at the Training School for Nurses of the Cambridge Hospital on September 21.

Many physicians' names appear on county tickets for legislative honors, among them being Drs. Louis B. Henkel, C. A. Wells and D. C. R. Miller.

Robert White Knox, M. D., of Houston, Tex., is spending some time in Baltimore visiting the various hospitals and institutions of this city.

Walter Van Swearinger Levy, M.D., has filed a petition in Circuit Court No. 2 of Baltimore City asking authority to change his surname to Van Swearinger.

Robert Talbott Miller, Jr., M.D., recently a member of the Johns Hopkins Medical School faculty, has been appointed surgeon-in-chief at St. Francis' Hospital, Pittsburg.

William S. Thayer, M.D., has made a report which includes a history of pellagra and describes in detail the history, as well as giving his observation of two cases.

The Supervisors of City Charities of Baltimore will ask the Board of Estimates for an appropriation of $15,000 with which to care for 100 insane patients in additions to be built at Spring Grove and Springfield next year.

A report of the Second International Congress on Leprosy, held in Bergen, Norway, during last August, has been prepared for publication by Dr. Donald H. Currie, director of the leprosy investigation station at Molokai, Hawaii.

William H. Thearle, M.D., has received his commission as first lieutenant in the Medical Reserve Corps.

The following physicians were appointed as members of the staff of the Johns Hopkins Hospital: Drs. C. R. Austrain, W. A. Baetjer, W. L. Ester, Jr., C. R. Huagsley, Jr., P. I. Nixon, S. W. Schaefer, L. W. Watkins, J. W. Blackman, S. W. Budd, A. O. Fisher, C. W. Webb, A. J. Wiesender.

At the meeting of the Virginia Coroners' Association, recently organized, the meeting was called to order by Dr. William H. Taylor of Richmond, who has been coroner of the city for 50 years. Dr. Taylor is a graduate of the Medical College of Virginia, class of 1856, and is 74 years of age.

MARRIAGES.

Gustavus Charles Dohme, M.D., Johns Hopkins Medical School, '02, to Miss Ada Frances Chinn, both of Baltimore, on September 15.

Herman F. Derger, M.D., Johns Hopkins Medical School, '08, of Eau Claire, Wis., to Miss Margaret Zeigler of Baltimore on September 8.

DEATHS.

James Bordley, M.D., University of Maryland, '68, at his home in Centreville, Md., August 30, aged 63 years.

Edwin J. Dirickson, M.D., Jefferson Medical College, '74, at the Shepherd and Enoch Pratt Hospital, August 27, aged 57 years.

Francis Marion Slemons, M.D., University of Maryland, '61, of Salisbury, Md., in Baltimore, September 22, aged 70 years.

Walter H. Vinal, M.D., P. & S., '97, at Parkville, Md., of pneumonia, aged 35 years.

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THE EFFECT OF SCARLET RED, IN VARIOUS COMBINATIONS, UPON THE EPITHELIATION OF GRANULATING SURFACES.

By John Staige Davis, M.D.,

Assistant Surgeon Out-Patient Dept., Johns Hopkins Hospital.

This paper has as its basis the observations made during the treatment of 60 cases with scarlet red.

Scarlet red, or Biebrichs scarlet red, was discovered in 1882, and is an anilin dye which stains silk and wool a brilliant scarlet color. It is a disulphonic acid derivative, and the dye on the market is the sodium salt of the staining acid, and is in the form of a powder.

Wolfrum and Cords in February, 1909, reported favorable results on corneal ulcers with scarlet red salve.

Being stimulated by these papers and having an opportunity to treat and observe a number of granulating wounds in the Surgical Out-Patient Department of the Johns Hopkins Hospital, I began a series of experiments with the scarlet red.

A few of the cases thus treated were house cases in the Johns Hopkins Hospital and at the Union Protestant Infirmary, but the greater number were those in the Out-Patient Department. These cases were not selected, and the wounds for the most part were very unsatisfactory to start with. Many were chronic ulcers of various varieties, belonging to the class of wounds upon which Schmieden stated the treatment with scarlet red was useless.

A large number of these patients continued their daily occupations, and thus the factors of rest and regular attendance could not be counted on. In fact, a more severe test of a treatment could scarcely be applied.

The dye employed was that manufactured by the Badische Company of Ludwigshafen, Germany, which is sold in one-pound cans and is inexpensive.

In the experiments I have used 2, 4, 5, 8, 10 and 20 per cent. scarlet red ointments, with a simple vaseline base. As I have been unable to observe any antiseptic properties in scarlet red, I had the following antiseptic ointments of U. S. P. strength made up in vaseline and containing 8 per cent. scarlet red: Boric, zinc, iodoform, blue, and an ointment consisting of balsam of Peru, 1 drachm, to vaseline 1 ounce. On several occasions I have dusted small wounds with the pure powder.

The ointments were prepared by rubbing up the scarlet red with a small amount of olive or castor oil, until a smooth mass resulted, and then this mass was thoroughly mixed with the base.

Sterilization of the ointment caused the color to become somewhat darker, but this change did not seem to affect the stimulating power of the preparation.

Technic.—Clean, healthy granulations should be bathed with boric solution and dried. Should the granulations be unhealthy, peroxid of hydrogen is used in addition, before the boric solution. I have found it best not to use bichloride of mercury or other strong antiseptic solutions on the wound before treating it with the scarlet red. Free use of nitrate of silver stick is advisable to keep down exuberant granulations.

The skin surrounding the defect should be anointed with some bland ointment up to within 1 cm. of the edge. Since this has been done the irritation complained of in some of the early cases has been, to a large extent, eliminated.

The ointment may be applied over the whole surface of the

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I have used Resinol Ointment in Eczema and Impetigo of teething children and it has given entire satisfaction. I have also used Resinol Soap in Tinea Tonsurans and Tinea Declavans with excellent results, and I regard it as the best soap to use for all scalp troubles and to keep the hair in good condition.

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wound if it be small, or simply to the growing epithelial edges. Whichever method is chosen, it is best to apply the ointment on perforated old linen, to which the granulations will not adhere and which allows the escape of secretions and thus prevents maceration. When applied to the edges, the old linen should be used in narrow strips covered with a thin layer of the ointment. I prefer the old linen to the rubber protective advocated by Cernezzi, as it is less macerating.

Another very satisfactory method is to apply a thin coating of the scarlet red ointment to the wound edges with a camel's-hair brush, being sure that the edges are dry. Then either cover with strips of old linen or expose to the air. This is especially useful in the partial graft cases and on small wounds, as the ointment can thus be accurately placed and the amount regulated.

The portions of the wound not covered by scarlet red may be dressed as seems best, or may simply be exposed to the air under a cage.

A light dressing of sterile gauze secured by a bandage completes the procedure. This dressing should be removed within 48 hours, 24-hour intervals being preferable, and replaced by some bland ointment, such as zinc or boric ointment. After the same interval has elapsed the scarlet red dressing should be replaced.

The importance of careful dressing is to be emphasized, as in some cases severe irritation has followed the improper application of the dressing.

It is well to warn patients that the ointment may stain the dressing red, as several have returned much frightened, saying that the wound had been bleeding.

Cases Treated.—There were 60 cases treated. Of these 44 were males and 16 females, the youngest being 2 years old and the oldest 76 years. White, 46; colored, 14. Duration of the lesions, a few days to 15 years.

The cases were grouped as folows:

Partial skin grafts	7 cases
Ulcer following operation for infection	10 cases
Ulcer following burn	11 cases
Traumatic ulcer	10 cases
Specific ulcer	8 cases
Varicose ulcer	7 cases
Ulcer following Cotting operation for ingrown toe nail	3 cases
Bedsore	2 cases
Miscellaneous ulcer	2 cases

The general health of the patient seems to have some bearing on the stimulating effect of the scarlet red, which is distinctly less marked in nephritic and diabetic cases. The age, on the other hand, has little or no effect; for instance, the measured growth on one patient 76 years old was 3 mm. in 48 hours, and in another 67 years old there was a growth of thick epithelium 4 mm. wide in 48 hours. As we seldom have two lesions of exactly the same size on the same person, it is difficult to make an accurate comparison between the rapidity of healing of a wound treated with scarlet red and one treated with the ordinary methods. However, on one patient there was an ulcer 3.5x3 cm. on each leg, and the one treated with scarlet red healed three weeks before the other, which was treated in the usual way. The difference in the appearance of the newly healed area was very marked, that following the scarlet red being thick, firm and so much like the normal skin that it was

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difficult to make out the original outline of the ulcer, while the usual sharply defined scar marked the location of the other ulcer. In many cases there is undoubtedly a very marked stimulation of the epithelial growth, and while personal supervision in this series in connection with careful dressing is a factor which must be considered, taking the results as a whole, one would hardly feel justified in attributing the success of the treatment entirely to this supervision.

The rapid-growing epithelium is thick and at first a bluish-red, with an opalescent spreading edge. Venules of considerable size can be seen close to the surface. The color and the enlarged vessels soon disappear, however, and the newly formed tissue rapidly assumes the color and characteristics of the normal skin.

A section through an area thus healed shows practically normal skin. As a rule after a short time this skin becomes freely movable over the underlying tissues.

In several instances the patient did not return for from 5 to 16 days after dressing with scarlet red, and it was noted in two of these cases that where the granulations had been exuberant on small ulcers, a cone-shaped mass of epithelium covered these granulations. This projection soon disappeared, and the epithelium assumed the level of the surrounding skin. No apparent bad effect resulted from the prolonged exposure to scarlet red in these cases, except that a grayish membrane formed over the granulations, which could be stripped off, and the healthy granulations exposed. It is needless to say that there was no irritation in this group of cases. The grayish membrane over the portion of the granulations covered with scarlet red will often form within 48 hours, and can be easily lifted off.

On those wounds which heal and then break down, because of the unstable condition of the epithelium, scarlet red has been useful; for example, a superficial ulcer following a burn on the front of the ankle and entire dorsum of the foot, had nearly healed several times, and then completely broken down again. Treatment with scarlet red ointment was begun on December 26, 1908, and the healing was complete and all dressings were omitted on January 8, 1909, since which time the patient has had no further trouble, as the wound is covered with thick stable epithelium.

Scarlet red should not be used on burns until the irritation has disappeared and the granulations are well established.

The exact strength and combination of the ointment to be used on different types of wounds can hardly be dogmatically stated, as experience is necessary for this knowledge. However, a few general observations may be of advantage. The 8 per cent. ointment is used unless especially contraindicated. In some cases which were sluggish to the 8, the 20 per cent. ointment has caused rapid stimulation of the edges. I should not advise the constant use of the 20 per cent. strength, as on several occasions it has proved too irritating in spite of all precautions. It is of value now and then, although its action should be carefully watched.

On several wounds which were nearly closed the pure scarlet red powder was dusted on the uncovered area, after protecting the surrounding skin. It had a marked drying effect and caused no irritation.

When the wounds are covered with unhealthy granulations and the discharge is profuse and foul smelling I have found the scarlet red in iodoform ointment, or balsam of Peru, or blue ointment very

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efficacious in cleaning up the granulations, and at the same time stimulating the epithelial growth.

The skin formed under scarlet red seems to fill the place of the missing skin, somewhat like a whole thickness graft, and in only one case has there been any tendency toward cicatricial contraction. This case, a burn of the neck and chest, was treated in the hospital by the usual methods for some time before scarlet red was started. Several weeks after healing the patient returned with a small contracted band of scar tissue on the left side of the neck.

Several varicose ulcers were treated with scarlet red without a pressure bandage, in order to test the efficacy of the healing, and there was no diminution noted in its rapidity or character.

Ulcers following the Cotting operation for ingrown toe nail are usually sluggish, and heal slowly, but with scarlet red the healing is materially hastened.

I have been able to try the effect of scarlet red on autodermic and isodermic partial Thiersch and whole thickness grafts, and also on zoödermic (dog) grafts. All of the seven cases which were grafted had very extensive lesions, and several partial grafts were placed on each of these at different times. The wound edges and also the edges of all these types of grafts were markedly stimulated. Scarlet red, 8 per cent., if applied to the surface of a Thiersch graft within four days after transplantation, causes maceration of the surface. In order to avoid this I find it advisable to apply the scarlet red in from 4 to 8 per cent. strength to the edges of the graft alone, and not until 10 days have elapsed. Only the edges of whole thickness grafts should be covered with scarlet red, unless the superficial layers are cast off, in which case the whole surface of the graft should be covered, as it will hasten the "topping" of the graft with epithelium.

There was severe irritation in 10 cases, 8 of which were not permanently helped by the treatment, although there was stimulation of the epithelial growth in all but two cases. Most of these cases were those treated early in the series, and since better technic has been employed no severe irritation has occurred. However, in 16 other cases there was a slight reddening of the surrounding skin, accompanied by a burning sensation at some time during the treatment, although this in no way interfered with the ultimate result.

In several instances scarlet red had to be discontinued on account of the pain and irritation caused by it. This was especially noticeable in women and young children.

Wheer tight-pressure bandages are applied over scarlet red there is more likelihood of irritation. There have been several cases in which there was marked stimulation of the epithelial edges at the beginning of the treatment, but later just as marked deterioration. This was the case especially when the attendance of the patient was irregular, and in such instances the treatment with scarlet red was discontinued.

In one case where a patient with a varicose ulcer stayed away from the dispensary for five days with the scarlet red dressing the irritation of the surrounding skin was so intense that a break-down was feared. This, fortunately, did not occur.

The stability, thickness and normal appearance of the healing under scarlet red is noteworthy, and even if the healing in some few instances is no more rapid than that under the ordinary methods, these advantages would seem to make it worth while.

NOTES.—The effect of Soudan III on the epitheliation of granulating wounds is now being tried, and the results will be reported later.

Late Researches in Diphtheria Therapy

Investigations by Fritz Meyer (*Berliner Klinische Wochenschrift*, June 28, 1909; editorial comment, *Medical Record*, July 31, 1909) on the effect of diphtheria toxin and antitoxin upon the heart, demonstrate:

1. **"Antitoxin, if administered early in sufficient doses, absolutely prevents the fall of blood-pressure."**
2. **"If given later, but before the fall has occurred, it delays the onset; but**
3. **"If given after the pressure has once fallen, it is quite without effect."**
4. **"Antitoxin given early in sufficient dose prevents myocarditis after the injection of toxin in any amount."**

Meyer states that large doses of Antitoxin given early will eliminate cardiac complications and postdiphtheritic cachexia. He recommends 5000 units as first injection, and when this is not promptly effective, 20,000 to 50,000 units at a dose.

These doses conform with those of McCollum and other competent observers, who, recognizing the danger in giving too small doses to neutralize the toxins, advocate 5000 to 40,000 units.

A CONSERVATIVE RULE IS:

Administer 1000 units for immunizing.

No therapeutic dose should be less than 3000 to 5000 units. In laryngeal, postnasal, severe or neglected cases, 10,000 units.

If marked improvement is not noted within eight hours, double the initial dose or give at least 10,000 units.

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Excerpts.

THE IMPORTANCE OF THE X-RAY IN THE TREATMENT OF FRACTURES.

By JAMES P. WARBASSE, M.D.

THE X-ray has long been esteemed as an aid in the diagnosis of fractures, but its importance has become so great and its use turned to such practical ends that we must think of it as an aid in the treatment of fractures as well as a help in diagnosis. At the time of the advent of the X-ray the diagnosis and treatment of simple fractures was making but little advance. Since the introduction of the X-ray more progress has been made in the treatment of these fractures than had been accomplished in a hundred years before. We were once wont to think that by palpation, mensuration and imagination we could divine the character of a fracture and the relations of the fragments, but we now know that we are often mistaken. We often spoke of perfect reposition when the reposition was far from perfect. We secured good functional results, and assumed that our diagnoses were correct. Now, with the light of the X-ray thrown upon the subject, we find that a perfect reposition in fractures of the long bones is not often obtained; but still, perfect restoration of functional is the rule.

The best results, of course, demand accurate reposition of fragments, but restoration of function, to all appearances as good as normal, is usually accomplished without securing perfect reposition.

We demand of the carpenter that he join two fragments of wood with mathematical accuracy; but that is because it is dead material which he has plainly exposed to view, and in the manipulation of which he encounters no obstacles. But suppose that we give him a piece of stick which is enclosed in the middle of a coat sleeve filled with rubber elastic attached to its whole circumference, he would declare a good job to be impossible.

It is a common experience, when we have put up a fracture of the humerus, and think that it is in satisfactory apposition, and have the X-ray show us that there is lateral displacement equal to half of the diameter of the bone.

The old idea in the treatment of fractures of the shaft of the femur used to be to reduce as much as possible the inevitable shortening. It is rarely completely overcome. We now know that the apposition in this fracture can only be made perfect by open operation, and even then only with much difficulty. Fortunately, most fractures of the femur are oblique, and the longitudinal overriding does not necessitate much lateral displacement. The less common transverse fracture in the adult is practically never reduced. The fragments unite side by side. Our textbooks speak of 10 pounds of traction being indicated, when correction could not be accomplished with 50 or 100 pounds.

One of the things the X-ray is doing for patients with this fracture is that it is saving them the damage incidental to the increasing of effusion, caused by diagnostic manipulations. If it is possible to get an X-ray picture of a broken thigh, the best interests of the patient are served by the immediate application of immobilibing splints and extension and making the refinements of diagnosis by means of the X-ray.

Before Roentgen's discovery was applied, fractures of the tibia were put up presumably in perfect apposition, and good results were secured, but now we observe that they are rarely in perfect position; indeed, in the majority of cases, perfect position can be secured only with much pain and difficulty, and often only by open operation.

I could show pictures illustrating that it is possible to get perfect apposition, but the object of this paper is to show that it is possible to think that we have perfect apposition when in reality we have not. Still, the functional results have been good in these cases with which I am familiar which have healed with mechanically imperfect reposition. At the same time, it must not be assumed that we are to be satisfied with even good functional results and bad joining if good joining is possible. In all surgical operations, whether in the operative treatment of a tumor, an hernia, or in the manipulation treatment of a fracture, the aim of the surgeon should be to restore the parts to their normal relations. The scarcely-noticeable limp, due to a slightly-shortened leg, may be the determining cause of other disease; the "rheumatism" occurring in a leg that has been broken is often but an expression of pressure upon a nerve by a hump of bone slightly out of place; local circulatory obstruction, with its train of symptoms, may be due to the same cause, and osteitis and sarcoma, occurring at the site of fracture, if due to traumatic abnormalities of the bone, as they undoubtedly are, are predetermined by the degree as well as by

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the presence of the traumatic abnormality.—*Long Island Medical Journal.*

OCCLUSION OF THE MESENTERIC VESSELS.*

By E. Arthur Parker, M.D.
Brooklyn-New York.

The difficulty of diagnosing occlusion of the mesenteric vessels, its high mortality and the opportunity to report three cases, all fatal, suggested this paper.

Jackson, Porter and Quimby, in the *Journal of the American Medical Association,* June 4, 1904, analyzed 217 cases of occlusion of the mesenteric vessels. Since then Parker, Syms and Greensfelder in the *Annals of Surgery,* Lee and Westbrook, before this society, have each reported a case. With those I now report, 223 have been reviewed. The diagnosis was confirmed in but four at operation; there were four operative recoveries.

Among the many conditions assigned as causes of mesenteric occlusion are diseases of the heart, arteries, kidneys, septic processes in the uterus, gastric ulcer, gangrene of the limbs, intestinal cancer and appendicitis. It has followed operations for ventral hernia, hemorrhoids and splenectomy (Delatour).

Occlusion occurred in an infant of one month, at five, seven and eight years, in over 50 per cent. of the cases between the ages of 30 and 60.

The most important symptoms are sudden, severe abdominal pain, occurring in 97 per cent. of the recorded cases. Park attaches considerable diagnostic import to the suddenness of the onset and the severity of the pain. Diarrhea with or without blood. Intestinal hemorrhage, not otherwise explicable, Mudd would diagnose mesenteric occlusion.

Ostipation in 22 per cent. of the cases.

Distension in 78 per cent.

Nausea and vomiting, brown colored fluid, often bloody, may be fecal.

Temperature usually below normal.

Increased pulse 90 to 150.

Free fluid in the abdominal cavity, frequently elicited, appears as serosanguinous upon opening the abdomen.

Increased leucocyte count, positive iodin reaction, and frequently sugar in the urine.

With acute blockage of the trunks of the larger vessels nothing can be done, with occlusion of lesser degree, resection of the intestine well beyond the part involved, waiting till later to unite the severed ends, with the Murphy treatment for peritonitis, would seem to offer the best chance for recovery. Elliott, in his successful case, resected 48 inches of intestine. This patient, a male, aged 25, was operated upon June 11, 1894. The mesenteric borders of the intestine were united. Loss of flesh and irritation of the skin necessitated suturing the ends of the intestine July 27. August 3 a fistula showed. November 16 fistula closed by intestinal resection.—*Long Island Medical Journal,* February.

*Read before the Brooklyn Surgical Society, June 9, 1908.

ADEQUATE DRAINAGE THE ESSENTIAL STEP IN THE SUCCESSFUL SURGERY OF BRAIN ABSCESSES.

Fred Whiting of New York says that the question of the after-treatment of brain abscess is important. Many a brilliant operation is spoiled by the failure of the after-treatment. Infected tracts are produced by laceration of brain substance in attempts at introduction of gauze into the cavity. The author has originated an instrument called the encephaloscope, by which the interior of the abscess cavity may be inspected and drainage introduced by sight. The first step should be to evacuate completely all pus from the cavity. Adhesions of the walls of the cavity may cause pus to be dammed up in the lower part of the cavity. The author believes it a bad practice to introduce forceps or the finger into the cavity to separate the walls. Irrigation is also bad for such a soft substance as brain tissue. With the encephaloscope the cavity may be quickly cleared of all macroscopic infective material. In judiciously-selected cases the curetting of the cavity to remove the lining membrane is allowable. In small superficial abscesses there is little choice between gauze and tubular drains. The author has supplanted all other drains by sterilized or iodoform gauze. In acute abscesses only a very small wick of gauze is needed. In chronic abscess the sloughing of the lining membrane is slow, and quantities of pus will come away. Sufficient iodoform gauze is introduced to distend the cavity, and it must be changed daily until all fetor is over. When there is no recognizable discharge, drainage may be discontinued. Gratuitous infection of healthy tissue by misdirected efforts at introduction of gauze must be avoided.—*Medical Record,* January 23, 1909.

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THE SURGERY OF THE THYROID GLAND.

By Randolph Winslow, M.D., LL.D.,
Professor of Surgery in the University of Maryland.

READ AT THE SEMIANNUAL MEETING OF THE MEDICAL AND CHIRURGICAL FACULTY, BRADDOCK HEIGHTS, MD., SEPTEMBER 16, 1909.

(*Continued from October number.*)

I append herewith short histories of the cases of goitre upon which I have operated:

CASE I.—*Cystic Goitre (Cured).*

Mrs. D., aged 38 years, was first treated at the Presbyterian Eye, Ear and Throat Hospital for a large cystic goitre, injections of 10 per cent. iodoform emulsion being given. As the growth continued to increase in size, she was referred to me by Dr. John R. Winslow, and was admitted to the University Hospital on June 27, 1900.

She comes from a family of great longevity, her maternal grandfather having died at the age of 93 years and her maternal grandmother being still living and 90 years old. There is nothing material in her family history or in her past history. She has had three children and two miscarriages, the last being about 12 years ago.

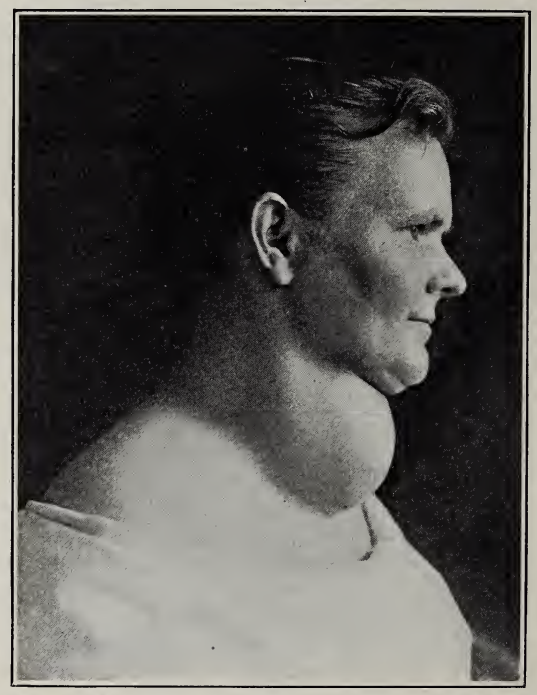
The present trouble commenced 10 years ago and has continuously gotten larger. The growth is situated over the trachea and extends from the larynx to the sternum. It is resilient and evidently contains fluid. It rises and falls during deglutition and is painless, and not adherent to the overlying skin. It causes an impediment to respiration unless she carries her head well up and back, and there is some interference with deglutition. The voice is somewhat altered. As the patient was incommoded to such an extent as to render her unable to attend to her household duties, I advised extirpation of the tumor, which was done on July 2, 1900.

A curved flap was made at the root of the neck and the goitre exposed. The tumor was cystic and limited to the right half of the gland. The left half of the thyroid was left *in situ*. There was perhaps a pint of colloid fluid in the cyst. Ether was first

given, and then chloroform substituted, in order to lessen the congestion of the neck. She made an uninterrupted recovery.

CASE 2.—*Adeno-Cystic Goitre (Cured).*

C. W., aged 27 years, was admitted to University Hospital on December 28, 1900. Her mother died at 34 years of age from the effects of a large goitre; otherwise her family history is negative. An enlargement of her neck was first noticed when she was three years old, and has been increasing ever since. It now measures 16 inches in circumference, and interferes with respiration unless she holds her head well back. It does not interfere with deglutition. Her voice is slightly altered. The growth is hard, and is



CASE 1—CYSTIC GOITRE.

especially prominent over the trachea, but also extends under each sterno-cleido-mastoid muscle.

Under ether anesthesia a curved incision was made at the root of the neck and the gland exposed. The tumor was very vascular and had numerous large veins coursing over it. The thyroid vessels were ligated at each angle of the growth, but the operation was quite a bloody one. A portion of the left lobe was left in order to supply thyroid tissue to the system. The tumor consisted of adenomatous growths, with numerous cysts of variable size. The patient suffered considerably for 36 hours and had to be kept in a semi-reclining position. She was kept on a liquid diet for a

week. There was quite sharp reaction following the operation, the temperature reaching as high as 103°. She made a good recovery.

CASE 3.—*Colloid and Hemorrhagic Goitre (Cured).*

Mrs. R. E. M., admitted July 14, 1902; discharged July 28, 1902; white; aged 37; housewife.

About six years ago patient noticed a slight enlargement of the right side of the neck, which gradually became larger until the present time. It has never caused her any pain, nor has she ever

CASE 2—ADENO-CYSTIC GOITRE.

noticed any redness or inflammation. She has never noticed any decided pulsation at that point, nor has it led to any disagreeable symptoms other than the disfigurement. The tumor feels rather firm on pressure and is about the size of a lemon. When it started it did not feel like a distinct lump, and does not now. Patient has not become at all emaciated, has no cough, and is not particularly susceptible to catarrh. Appetite is not good. An incision of six inches was made on the right side of the neck, extending from the inferior border of the lower jaw to the upper border of the sternum, and a tumor of about the size of a small orange, firm, but

containing no fluid, was removed from the right side of the neck. Wound was entirely closed and patient did well. A microscopic examination of the tumor showed it to be a colloid and hemorrhagic goitre. A general anesthetic was used in this case.

CASE 4.—*Cystic Goitre (Cured).*

C. D., admitted January 2, 1903; discharged January 12, 1903; 18 years old; white; housework; single. Patient has been in this country for two years, which is about the time she has noticed the growth in her neck. It was of small size, but gradually became larger and larger, until the growth reached the size of a hen's egg. Patient was treated by Dr. Hirsh about eight months ago, but showed no improvement, so was advised by him to come to the hospital to be operated upon. The growth never caused the patient any trouble, pain or discomfort. The patient was operated upon January 3, after the usual preparations. An elliptical incision about five inches long and extending from the right side to the left was made and the tumor dissected out. It was pushed easily from its sack, and was found to be cystic in character and to contain about five ounces of fluid. The wound was closed by a subcutaneous suture. The patient before the operation had pulse about 130, and it was said by Dr. Hirsh that her pulse seldom ever fell below 120, but at present it is 90. Patient made a good recovery; ether anesthesia.

CASE 5.—*Colloid Goitre (Cured).*

Mrs. M. A. F. was admitted to University Hospital on March 4, 1903, and discharged on March 16. She is a white widow, 45 years of age. Her family and personal history are uneventful. About 12 years ago a dressmaker, whilst fitting a dress on the patient, discovered an enlargement in the neck. This remained rather stationary until five years ago, when it began to increase in size, and it is now about the size of a large orange.

Operation.—Under cocaine infiltration, and without a general anesthetic, the right lobe of the thyroid and a large portion of the left was excised. A crescentic incision, with its convexity downward, was made; the skin and platysma retracted upward, and the deep cervical fascia divided, exposing the gland. The veins and right superior and inferior arteries and the left superior thyroid vessels were ligated. The thyroid gland was now dislocated, and the whole right lobe, the isthmus and a portion of the left lobe were removed. Drainage was employed for a few days. She made an excellent recovery and was able to return to her home in 12 days. She suffered some during the operation, but bore it bravely. She was referred to me by Dr. Summers of North Carolina.

CASE 6.—*Colloid Goitre (Cured).*

W. S.; white; male; aged about 18 years; admitted March 11, 1905; discharged March 23, 1905.

About four weeks ago patient noticed an enlargement on right

side of neck, extending from the right sterno-cleido-mastoid muscles to the left of the median line. The lump gave no particular discomfort, and he would not have known of its presence had he not seen it.

Operation.—Incision was made along the anterior border of sterno-cleido-mastoid to the suprasternal notch, exposing a large thyroid enlargement, mainly on the right side. The entire right lobe and a part of the left were removed, cut edges sutured with catgut and wound closed, after introducing a rubber drainage tube.

Following the operation there was a rise in temperature to 102°, which, however, soon fell to normal, and the pulse never exceeded

CASE 6—STRUMA COLLOIDA (Right Lobe).

100 to the minute. Date of operation was March 13, 1905. Ether was used as anesthetic. Patient was discharged March 23, the wound entirely healed.

CASE 7.—*Adenomatous and Colloid Goitre (Cured).*

Mrs. H. A. T.; white; aged 50 years; admitted May 1, 1906; discharged May 10, 1906.

History.—Married. Family history negative. Goitre appears to be hereditary in the family, the patient's mother, sister and daughter all having been affected with the disease. The present trouble has been in existence as long as she can remember, but remained almost stationary until two years ago, when it gradually enlarged, but did not cause distress until three weeks before admission, when she thinks she caught cold. Since that time her

breathing has been more or less interfered with. She has been rather nervous, but not to a great extent. Her habits have been good and her general health excellent. Referred to me by Dr. John R. Winslow and Dr. Ridout of Annapolis, Md. Admitted to hospital May 1, 1906. A tumor the size of an orange was seen on the front of the neck, but mostly on the left side. The lump was firm, painless and movable under the skin. Pulse rate between 80 and 90 per minute. There was some interference with respiration. There was no exophthalmos; urine normal. May 3, 1906, patient having been prepared in the usual manner, morphia sulph., gr.⅙; scopolamin, gr. 1 1-100, was given one-half hour before the operation. The skin was then anesthetized by the hypodermic injection of Schleich's solution of cocaine. The incision was crescentic in shape extending from the anterior border of one sterno-mastoid muscle to the other. The skin was dissected upward, the capsule of the tumor exposed and incised, and the mass enucleated. The capsule was very vascular and was the only structure which caused difficulty from hemorrhage. A drainage tube was placed in the cavity from which the tumor had been removed, and the skin was sutured with catgut. She complained somewhat of pain during the operation, but bore it well. The drainage tube was removed in 48 hours, and she was discharged well at the end of a week. Highest temperature was 102°, pulse 120, respiration about 33.

Microscopical Report.—Section of tumor consists almost wholly of glandular tissue, with some fibrous tissue stroma; many of the glands contained colloid material.

Diagnosis.—Adenoma, undergoing colloid degeneration.

Case 8.—*Goitre, Probably Graves' Disease (Died).*

Operation and death from acute thyroidism. R. C.; 27 years of age; married; white; female; referred to me by Dr. John R. Winslow and Dr. Wolff of Cambridge, Md. She has had heart symptoms for some time, and also difficult respiration. On admission, temperature 99⅗°, pulse 120, respiration 24. Urine normal, except for considerable quantity of pus; specific gravity 1026. An enlargement of the thyroid to a moderate degree was present, but no exophthalmos. Patient in fair condition, but with rapid and irritable pulse.

May 13, 1904. *Operation.*—Removal of left lobe of thyroid, using gauze to separate fascia; possibly too much manipulation of the gland; no hemorrhage; patient shocked some. 9 P. M., temperature 103⅕°, pulse 148, respiration 24; very restless and delirious, and tossing around; morphia and atropia, gr. ¼ and 1-150; digitalin, gr. 1-60, every three hours; infused with salt solution. Wounds dressed on 14th, sponged, when temperature was 102⅕°. Infused repeatedly; temperature reduced somewhat, but the pulse increased in frequency. Ice cap to head. A tube was passed through the nose and nourishment given. She continued wildly delirious and restless, and died on October 16. The cause of death was evidently acute thyroid intoxication.

CASE 9.—*Hypertrophied Thyroid Isthmus (Cured).*

Mrs. G. W. M.; admitted May 7, 1905; discharged May 16, 1905.

History.—Housewife; age 32; entered hospital May 7, 1905, with enlarged thyroid gland. The swelling was about the size of a walnut, situated in the isthmus of the thyroid and pressing upon the trachea. The trouble dates back five years. When she first saw the swelling it was about the size of a small pea, intimately attached to the trachea, moving with each respiration, but causing no discomfort. The growth gradually increased until it attained the size of a walnut. About two months ago it began to give her discomfort, causing pressure symptoms and sensations of choking. No evidence of thyroidism.

May 8, 1905. *Operation.*—Under ether an incision about two inches long was made in a transverse direction over the lump and the skin dissected upward, exposing the enlarged portion of the gland, which was excised, hemorrhage stopped and wound closed with subcutaneous suture of silkworm gut without drainage. Wound was dressed on seventh day and suture removed; primary healing. Highest temperature reached was 100°; highest pulse was 116. Patient was discharged cured on May 16.

CASE 10.—*Colloid Goitre (Cured).*

Mrs. C. P.; admitted September 23, 1906; discharged October 3, 1906.

History.—She first noticed the goitre coming about 18 years ago. At first it would come and go, but for the past three years it has been giving her trouble, causing a shortness of breath, a quickening of the heart, and pain and fullness of the eyes. She also suffers with stiffness of muscles of the neck, back and arms. She is unable to do much work, *i. e.*, lifting or walking upstairs. These symptoms are not severe whilst she sits still, but there is some increase in the heart beat when she exerts herself. She does not rest well when lying down on account of a shortness of breath. When she raises her arms above her head her breath seems to be cut off. The patient is a well-developed white woman, 39 years of age, eyes rather prominent, and an enlargement of thyroid gland, more on left than the right side, firm, slightly movable and not painful to the touch. No other abnormal symptoms are present. The patient was admitted on September 23 and operated on September 24. The left lobe of the thyroid and part of the right lobe were removed under local anesthesia. A drainage tube was used for 48 hours. The patient got along nicely after the operation, and on October 3 was discharged, temperature, pulse and respiration being normal and her general condition improved. The highest temperature was 101°; highest pulse 108.

(*To be continued.*)

REPORT OF A CASE OF ASTEREOGNOSIS CAUSED BY TUMOR OF THE POSTERIOR SUPERIOR PORTION OF THE RIGHT PARIETAL LOBE.

By Irving J. Spear, M.D.,
Clinical Professor of Nervous and Mental Diseases in the University of Maryland.

On June 24, 1909, I was asked to see a case of suspected tumor of the brain by Prof. R. Winslow and Dr. N. L. Dashiell. Professor Winslow had seen the patient in consultation with Dr. Dashiell and recognized the possibility of a cerebral tumor, and asked me in with the view of localizing the growth. The following is the history:

Mr. F. P., age 41; white; male; railroad engineer. Complains of headache and vomiting spells. Duration, about 12 weeks. Getting worse.

Family History.—Negative.

Past History.—Always healthy; habits good; denies venereal trouble; has been working as an engineer for 17 years, during which time he has practically lost no time due to sickness.

Present Trouble.—Two years ago had slight numbness in the left hand, which was transient, lasting only a few days. Never suffered with headaches until the early part of April, 1909, when he began to complain of headache, which was more or less constant and which kept him awake at night. Shortly after this he had vomiting spells, for which he could not account. In the early part of May these vomiting spells became extremely persistent, the headache got worse, and he had hiccoughs almost continuously for 12 days. From the middle of May until date of examination the patient's headaches have become extremely severe and the vomiting spells very frequent. Had to be given morphia on account of pain. At times was very restless. Was unable to walk without assistance. Four days before examination had a slight convulsive seizure, during which he was unconscious, and the spasmodic movements involved principally his left hand and arm. Has had no disturbance of vision. For the past eight weeks his temperature has been ranging from 97⅘° to 98⅗° F., pulse from 36 to 60 per minute. At times he was irritable and restless, at other times was stupid and displayed no interest in his surroundings.

Physical examination on June 24, 1909, revealed the following facts:

Patient lying quietly in bed; rather stupid in appearance; brows contracted as if in pain; answers questions rather slowly.

Intelligence fair; memory good.

Skin and mucous membranes normal; muscular developments good.

Patient large man, weighing about 190 pounds.

Heart and lungs are clear; pulse rate 44 per minute; blood pressure 110; volume and force good; rhythm regular; respiration 18 to the minute, regular and deep.

Abdominal organs are all apparently normal. No glandular enlargements.

Joints all freely movable; no eruptions on skin.

Examination of Nervous System.—Motor power very good on both sides, above and below. No muscular rigidity. No atrophies. Patient shows a constant tendency to be moving the left arm and leg, which does not appear on the right side.

Reflexes.—Deep; are all exaggerated, but much more marked on the left side than on the right side. Ankle clonus present on left side. Babinsky's sign is negative on both sides.

Superficial Reflexes.—Plantar, abdominal and cremasteric are present. Co-ordination of the left arm and leg poor, but good on the right side.

Sensory Functions.—Normal in all its qualities on the right side; left side, tactile and pain are obtunded over left forearm and hand.

Temperature obtunded over left forearm and hand.

Muscular sense and stereognostic sense are lost in left hand.

Tactile, pain and temperature sense are normal over the entire trunk, and seem to be slightly obtunded over the lower part of the left leg and foot.

Muscular sense is lost in left foot.

Tendency to perspire more freely on left arm and hand than on the right side; otherwise no vasomotor or trophic disturbances noted.

Cranial Nerves.—Are all normal with the exception of a slight edema of both optic discs.

Patient was gotten out of bed and assisted in walking. It was noticed that his gait was staggering and uncertain, with a tendency to drag the left leg and to fall to the left, this being caused, I think, by the fact that the patient did not know the position of his left leg.

Diagnosis of "cerebral tumor" was made from the presence of the following symptoms: Slow pulse, headache, vomiting, convulsive seizure and type of sensory disturbance. The growth was localized by the presence of astereognosis of left hand, convulsive seizure involving the left hand more prominently, and the character and distribution of the sensory disturbances on left side. In testing for the astereognosis, various objects of different size and shape were used. Patient was blindfolded, and these objects were placed first in the left hand and then in the right hand. The patient was absolutely unable to recognize objects which were placed in his left hand, although he recognized that there was something in the left hand, whereas he immediately recognized all the objects that were placed in the right hand. For example, he was unable to recognize a bottle or a knife or the difference be-

tween the two in the left hand, whereas he immediately appreciated the same in the right hand.

On June 28, after due preparation, patient was operated upon by Professor Winslow.

The skull was trephined slightly below the posterior parietal eminence. This opening was enlarged and the dura opened. Immediately upon opening the dura, which was under great tension, there protruded a yellowish mass. The opening of the dura was enlarged, and this mass was recognized as a cystic growth of the brain. It was about the size of a large walnut. The growth was removed and the surrounding brain tissue curetted. All hemorrhage stopped. The dura was then closed and skin sutured.

The patient was under the anesthetic (ether) for one hour and 20 minutes; removed from the table in good condition; pulse 80 to the minute.

With the exception of an epididymitis which patient developed as result of catheterization, he made an uninterrupted recovery, and was up and about on the 10th of July, just 12 days after operation.

Examination of growth by Professor Hirsh showed a round-cell sarcoma.

Examination of the patient made July 12 showed patient to be perfectly normal, with exception of sensory disturbances on the left side. The stereognostic sense was still deficient in left hand, co-ordination of left hand was not as good as that of right hand, and the deep reflexes were still exaggerated. The optic fundi were normal, and no headaches and no vomiting since the operation, and pulse in the last three days varied from 72 to 88.

Since this time I have heard from patient twice, the last time September 20th. He feels well; is about and enjoying himself. He is anxious to get back to work, saying that he feels as well as he ever did in his life.

In conclusion, would call attention to two rather important points illustrated in this case: First, the persistent and marked vomiting spells, which are not generally supposed to occur with cerebral tumors; second, the location of this growth in the posterior and superior portion of the parietal lobe, and the manifestation of the involvement of this portion of the parietal lobe being astereognosis and ataxia of the opposite upper extremity.

Essentials of Laboratory Diagnosis. By Francis A. Faught, M.D. New York: F. A. Davis Company. 1909.

As its name implies, this little work contains only the essentials of laboratory diagnosis. Its contents, however, cover a rather wide field, including sputum, blood, animal parasites, analysis of feces, urine, stomach contents, milk and other body fluids.

It will be found useful as a reference work on the worker's table. The directions are concise, but clear, and while most of the tests found in larger works are merely mentioned, a satisfactory résumé of those commonly used will be found well described.

SURGERY OF THE KIDNEY.

By Alexius McGlannan, M.D.,

Baltimore.

Most of the lesions of the kidney belong to that group of diseases situated on the border line between medicine and surgery. The history of kidney surgery embraces comparatively few years. Until about 30 years ago surgeons followed the practice of Hippocrates, and only sought to remove a renal calculus from the pyonephrotic sac after the abscess had broken through the kidney substance. About this time Morris proved that the stone could be removed and the kidney saved. This, therefore, is the beginning of modern renal surgery, and indicates its aim—a cure of the disease, with the conservation of all kidney substance possible.

The Anatomy of the Kidney, especially the arrangement of the blood vessels, is of much interest. The relation of the branches of the renal artery is most important. Hyrtl, quoted by Schede (*Bergmann's Surgery,* Vol. V, p. 185), showed that there is a marked separation between the arteries of the anterior and posterior portions of the kidney. This separation is so distinct and so regular that the organ may be divided from cortex to pelvis without injury to even terminal branches. The line of this division is from .5 to .7 cm. behind the middle of the porterior border of the kidney, and usually shows as a white line on this surface of the organ. (Broedel's white line. *J. H. H. Bulletin,* January, 1901).

Anomalies of the renal arteries are fairly frequent. The relation of these vesels to hydronephrosis has been considered by several observers, while a study of this interesting point has been published recently from the Mayo clinic (*Journal American Medical Association,* May 1, 1909, p. 1383). These anomalous arteries pass in front and back of the ureter near its origin in such a way that very slight changes in the position of the kidney will produce kinking of the tube.

The renal vessels are the most important factors for holding the kidney in its place. A firm layer of the capsule passes behind the vessels, between them and the ureter, and is joined to the sheath of the aorta and to the fascia covering the lumbar portion of the diaphragm. Englisch considers this prolongation of great importance in maintaining the position of the kidney, by means of its action as a suspensory ligament.

Adults, unless greatly emaciated, have a fat capsule surrounding the kidney, joined to the inner fibrous capsule by numerous connective tissue bands. Sappey and Zuckerkandl describe the *fascia retrorenalis,* a fairly firm capsule of connective tissue on the posterior surface of the fatty capsule. Gerota describes the *fascia prerenalis,* a more or less developed layer on the anterior surface, more marked on the left side. Its development seems to increase in proportion to the degree with which the colon covers the kidney.

Above the kidney and along its convex border these fascial layers unite and form what is practically a third capsule, called by Schede the *fascia renalis.* At the lower pole the fatty capsule is continuous with the fat of the iliac fossa. Anteriorly the fascia renalis

lies close to the peritoneum; posteriorly it is connected with the sheaths of the psoas and quadratus lumborum muscles. This union is especially firm at the inner margin of the muscles, and is, therefore, a particularly important factor for holding the kidney in place.

THE PHYSIOLOGY OF THE KIDNEY is very important. For the surgeon the most interesting points are those concerning inhibition of the function and compensatory activity and hypertrophy of the organ. The inhibitory action of injury to one kidney on the function of the other has been proved by many experiments and clinical observations. Garré and Ehrhardt (*Nirenchirugie*) are firm believers in this reno-renal reflex anuria. Herman (quoted by Wyss) showed that ligation of the ureter in dogs caused the kidney to stop the secretion of urine. Wyss removed an anatomically intact kidney for uremic attacks eight months after the closure of the ureter. This case indicates the gradual inhibitory action of one kidney on the other after injury.

The compensatory hyperthrophy of a healthy kidney after removal of its diseased mate is a well-established fact. Pearce (*Journal of Medical Research*, January, 1909) has studied the changes in the kidney after resection of part of the organ. According to this investigator, there is no true regeneration of kidney substance. Soon after the resection there is proliferation of tubular epithelium and some regeneration of straight tubules in the scar, but no new glomeruli. This proliferated epithelium, however, undergoes cystic degeneration, and has disappeared by the 159th day. At this time the kidney shows a very evident growth, and examination of its substance shows a hypertrophy of the glomeruli, but no newly-developed ones.

A very interesting observation of Pearce's is on the heteroplastic bone formation in the connective tissue beneath the pelvic mucosa. Wyss (*Beitrage z. Klin. Chirurg.*, 1902, Vol. XXXVI, p. 1) reports a case showing this change, and prints an X-ray picture of the condition.

THE FREQUENCY OF TRAUMA in the etiology of kidney lesions is remarkable. Wyss mentions the importance of slight or severe injury as the determining factor in the seat of infective lesions of the kidney. Trauma was present as a secondary etiological factor in most of his cases.

The insecure fixation of the kidney has been noted in considering its anatomy. Wyss calls attention to the fact that the kidneys, especially the right one, are liable to injury by squeezing, when the body is extended against resistance in coming from a crouching to an erect position; for example, in rising with a heavy load on the back. Under such circumstances the kidney is very likely to be squeezed between the psoas and the liver and diaphragm, therefore sustaining a certain degree of direct injury. At the same time there will be a pull on the frail attachments, leading to a changed position, with its train of possibilities, kinked ureter, twisted vessels, etc.

A blow or other traumatism over the kidney may cause a perirenal hematoma. Even when slight, this hematoma may relax the

connective tissue supports of the kidney and pave the way for displacement.

GENERAL SYMPTOMS.—In the general symptomatology of surgical lesions of the kidney, the most prominent are pain, tenderness, renal tumor, disturbances of the urinary function and alteration in the character of the urine.

Pain.—This may vary from a slight uneasiness to the most severe anguish. It is an extremely inconstant symptom, but may be present in almost any lesion of the kidney. Pain is usually marked in conditions causing obstruction of the ureter, and then is due to distension of the pelvis and hyperemia of the kidney. The pain of stone seems to depend on the amount of traumatism the calculus inflicts on the kidney. A small, sharp, rough stone, when movable, will cause severe pain, while a large smooth one may be symptomless. The pain of acute hemorrhagic infection is very great, and is referred to the abdomen. Nizzoli (*Zentral. f. Chir.*, 1905, XXXII, p. 767) states that he has found pain at the outer border of the sacrolumbar muscles in character like short blows from the ulnar side of the fist present in all inflammations, tumors and displacements of the kidney. We have not been able to verify this sweeping statement in the examination of a limited number of cases.

Tenderness is often associated with pain in the infections of the kidney, in stone and in dilatation of the renal pelvis. Unilateral tenderness at the costovertebral angle is pathognomonic of acute hematogenous infection.

Colic.—Renal colic is a very acute attack of severe pain, coming on without prodromes. The pain usually begins in the region of the umbilicus, and is accompanied by nausea and vomiting. The pain is soon localized in the region of the kidney or ureter, and radiates to the back, the groin and the external genitals, along the distribution of the sciatic, the ilioinguinal and genitocrural nerves. This colic must be distingushed from that of acute abdominal lesions by the associated symptoms, i. e., the condition of the urine, kidney tenderness, etc.

Renal Tumor.—A swollen kidney is the rule in all infections of the organ, in obstruction of the ureter and in new growth. When one kidney is useless fuctionally, its mate may take on compensatory hyperthrophy, giving rise to symptoms of infection, etc., on one side, with tumor on the other. This hypertrophied kidney may be tender. A palpable kidney, on the other hand, has been absent in cases of stone and infection. Israel mentions soreness persisting for days after palpation of the kidney in cases of infection.

Disturbances of the Urinary Function.—Frequent and painful micturition, associated with tenesmus, may occur with calculus, infections and obstruction to one ureter.

Anuria.—Total suppression may occur with calculus, or with an acute obstruction to one ureter, dilatation of the pelvis of the kidney or acute nephritis. Any mechanical obstruction that raises the tension of the kidney above that of the general blood pressure will cause anuria. Great lowering of the general blood pressure

results in anuria, as in severe hemorrhage. The anuria of shock is an important fact to remember when treating injured persons.

Polyuria usually occurs early in tuberculosis and other infections. A reflex polyuria has been observed when the ureter is catheterized. In certain neuroses this symptom is prominent. Intermittent polyuria may occur in cases of hydronephrosis.

Retention of urine in the bladder is rare in kidney lesions, but has been observed in cases of colic due to calculus.

Alteration in the Character of the Urine.—This is the most important of all the clinical signs of kidney disease, but in order that it shall be of any value, certain precautions are necessary in collecting the specimens. The mixed urine voided spontaneously, or catheterized from the bladder, is of little value, except in cases where the clinical symptoms point directly to the side of the lesion or to a bilateral lesion. For example, the presence of blood in such urine after a blow over the left kidney would be a valuable symptom, but, on the other hand, would be useless as a sign of renal tuberculosis. Most often it is necessary to collect the urine separately from each kidney by means of the ureteral catheter. The use of intravesical segregators has been practically abandoned, because of the possible contamination of the urine by bladder lesions and the unreliable character of their separation.

The important constituents to be sought for in examining the urine are blood, pus and bacteria.

Blood.—The quantity of blood in the urine may vary from microscopical traces to copious hemorrhage. Greatest quantities are found after severe injury, in cases of sharp stones and in certain tumors.

Microscopic blood, in the absence of distinct hemorrhage, will always be found at some time in the course of a tumor. Brewer (*American Journal Medical Sciences,* May, 1908) calls attention to the occurrence of at least microscopic hematuria following the colic of calculus. The hematuria of stone is most often found after exertion, while spontaneous hematuria, coming on during sleep or while at rest, is a strong indication of new growth. A variable quantity of blood occurs at intervals in the urine of tuberculous kidneys.

Hematuria may be inexplicable. The so-called essential hematuria is denied by some writers. It is true that an anatomical basis has been found for many cases so diagnosed, but the fact remains, however, that in some patients hematuria occurs and persists, when the most careful examination of the kidneys at operation and from removed pieces fails to show any change of structure.

Pus.—Pyuria occurs in all infections in and around the kidney where the area of suppuration communicates with the renal pelvis. It is one of the early and constant symptoms of tuberculosis, and occurs also in cases of pyelitis, pyelonephritis and in perinephritic suppuration.

The quantity of pus varies from a few cells to a huge collection. In obstructive pyonephrosis there will be occasional large quantities of pus in the urine, with few cells during the intervals.

Persistent acid pyuria, that does not yield growth of organisms on ordinary media, is characteristic of tuberculosis of the kidney. Such urine should be further tested by inoculation of animals. (H. Kelly, *British Medical Journal,* June 17, 1905).

Kidney Cells.—The presence of cells from the kidney, especially if they are grouped into structural masses and occur in bloody urine, is strongly suspicious of tumor. Cells from the pelvis often occur in pyuria of infection.

Bacteria.—The tubercle bacillus occurs in the urine early in tuberculous kidney, but is not constant. It may be necessary to examine several specimens before the organism is found. Animal inoculation with the urine is a much surer method of demonstrating tuberculosis. Of course, in the staining methods it is necessary to exclude the presence of the smegma bacillus. This is best accomplished by care in collecting the catheterized specimen. The colon bacillus, ordinary pus cocci and the gonococcus may be found in the urine in cases of acute infection of the kidney, in pyelitis and paranephritic abscess. Typhoid organisms are found in the urine during the fever and for varying lengths of time afterwards. The typhoid bacillus may or may not be accompanied by pus.

Among the general symptoms of kidney lesions we have the following:

Fever.—A rise of temperature occurs in all infections of the kidney. It is a constant symptom in tuberculosis, pyonephrosis and pyelitis. A chill and fever coming on in the course of a disease characterized by kidney pain or tumor indicates a secondary infection. Very high fever is the rule in acute hematogenous infection of the kidney.

Leucocytosis.—In acute infection the leucocyte count is high—from 20,000 to 35,000—with predominance of the polynuclears. Some increase in the number of leucocytes is common in all the infections, and may even occur with tumors.

Uremia.—In many unilateral lesions of the kidney there is reflex inhibition of the other sound organ. In these cases it is important to recognize the seat and character of the lesion and treat it properly. In certain bilateral lesions, where the disease process has reached the stage of inhibition or serious crippling of the kidney function, uremic symptoms come on, and may be relieved by prompt operation. This condition has been observed in bilateral lithiasis and in cystic kidneys, as well as in acute toxic nephritis and in chronic nephritis.

Instrumental Examination.—In the physical examination of patients suffering from kidney lesions we derive great assistance from the use of the cystoscope, ureteral catheter and the X-ray. In addition to allowing us to obtain separate urine from each kidney, the *ureteral catheter* will show any obstruction to the ureter, and may also demonstrate the presence of a stone in the ureter or pelvis of the kidney.

The cystoscope reveals the condition of the mucous membrane of the bladder, as well as the condition of the ureteral orifices. The latter is of most value in the diagnosis of tuberculosis and stone. In tuberculosis of the kidney the ureteral orifice on the diseased

side will show injection or ulceration, possibly retraction. The quantity of urine from this side is diminished, and there is usually resistance when an attempt is made to pass the catheter. A calculus, protruding from the ureter, will be seen, and one low down in the ureter may be touched. The waxed-tip catheter may also show the scratches of a sharp, irregular stone in the ureter or pelvis. An edematous ureteral opening, or one that is everted, usually means stone low down in the ureter. Thomas (*Annals of Surgery*, Vol. 47, p. 591) gives illustrations of the cystoscopic appearance of certain lesions. The use of the cystoscope and ureteral catheter gives us further information concerning the condition of the sound as well as the diseased kidney.

X-ray.—The X-ray picture is the best single point in the diagnosis of renal calculus (91 per cent. accurate in Brewer's report). However, many accessory signs and symptoms must be considered in making the diagnosis. Leonard (*Annals of Surgery*, Vol. XLV, p. 544) gives a study of the diagnosis of urinary lithiasis, and points out the many sources of error in the X-ray picture of stone in the kidney.

As a rule, if the plate is made so as to show the structure of bone, the outline of the psoas and the transverse processes of the lumbar vertebræ, it will then show any stone present in the kidney.

The exceptions are very rare—pure uric acid calculus and a stone situated just behind the transverse process.

It is important to exclude the shadows of certain other structures that can cause error. Phleboliths, calcified lymph nodes, calcareous masses in muscles or ligaments and calcified appendices epiploic (Brewer) give shadows that may be confusing. The shadow of stone has well-defined edges, while that of these other bodies shows diffuse outlines.

In addition to showing stone in the kidney, the X-ray is valuable in the diagnosis of hydro- and pyonephrosis, as well as hypertrophies and displacements of the kidney. In pyelitis it is sometimes possible to show the pus and debris filling the pelvis of the kidney. Such plates can only be obtained in especially selected cases, and must always be interpreted with great care.

CLASSIFICATION.—The various lesions of the kidney may be classified in the following manner:

Injuries, infections, calculus formation and sequences, hydronephrosis, misplacements, essential hematuria, neuralgia and tumors.

1. *Injuries* are either subcutaneous or open. Rupture of the kidney is usually the result of severe injury to the kidney region. Frequently the rupture will be associated with fractured ribs or vertebræ, while often there is rupture of another viscus, and almost always a tear of the peritoneum. The mortality is rather high. Garré and Ehrhardt put it at 47 per cent.

The general symptoms of rupture of the kidney are those of severe shock and hemorrhage. In addition, there will be tumefaction and tenderness in the loin. The blood from the ruptured kidney often follows the course of the spermatic vessels, and appears as a hematoma of the scrotum and inguinal canal. Blood in the urine, when present after an injury to the kidney region, is a very positive sign of rupture.

The treatment of these ruptures should be conservative. Neilson (*American Journal Medical Sciences,* January, 1908) gives a report of four cases and a résumé of the literature. Bauman and Lower (*Journal American Medical Association,* May 1, 1909) report a case of rupture of the kidney with fracture of the pelvis successfully treated by conservative measures. These authors also give references to several other cases.

Operation is required in rupture of the kidney for the control of hemorrhage; for the treatment of associated injuries; to protect the injured kidney from infection, and to put the organ in the best surroundings for its repair. The operation required varies with the injury, and the choice is often difficult. When the signs of abdominal injury are distinct, it is best to do a laparotomy, exploring the kidney from in front. If much blood is found around the kidney, the loin should be opened also. Most often the need of a lumbar drain will require this second incision without regard to the extent of the kidney hemorrhage. When the lumbar symptoms are predominant, the kidney should be exposed at once through a lumbar incision.

The best treatment for the injured kidney is by tamponing and drainage. It is rare that a kidney will be so badly lacerated that nephrectomy is required. Occasionally a secondary nephrectomy may be necessary for removal of the remains of a kidney treated conservatively, but the patient is always in better shape at this time, and the great fatality of immediate nephrectomy justifies the delay. Eisendrath (*Annals of Surgery,* Vol. XLVIII, p. 710) reports an interesting case of this character.

Most authorities recommend gauze packing for the control of hemorrhage and drainage. Cheyne and Burghard, however, advise suture as being much superior to packing. The packing is probably best. Of course, when the main vessels are torn, removal of the kidney is essential. Neilson calls attention to the importance of care of the bladder after injury to the kidney. Blood and clots must be washed out and careful irrigation kept up for several days.

Open wounds require practically the same treatment as the subcutaneous ruptures. Every possible means should be employed against infection and free drainage provided. Incised wounds are sutured with catgut and then drained.

Gunshot wounds are almost always complicated by intestinal injuries. Kablousov (*Abstract Surgical Gynecology and Obstetrics,* Vol. II, p. 721) published a study of these wounds as observed in the Russo-Japanese war. One nephrectomy was necessary in the three cases observed.

Johnson (*Annals of Surgery,* Vol. L, p. 715) gives a very good report of several cases of various injuries to the kidney.

Traumatism to the ureter and pelvis of the kidney may give rise to symptoms identical with those of rupture of the kidney. Hall (*Proceedings Southern Surgical and Gynecology Association,* 1905) reports two cases of this rare condition. Fortunately, a lumbar incision will reveal the cause of the trouble, and drainage through this incision is the proper treatment.

(*To be continued.*)

THE ALMSHOUSE CARE OF THE INSANE.*

By N. M. Owensby, M.D.
Baltimore.

THE subject of my remarks on this occasion—"The Almshouse Care of the Insane"—was suggested by recollections based upon personal observations and experiences encountered during an incumbency of nearly four years as assistant and chief resident physician at Bayview, the Baltimore city almshouse, in which the insane of that city are incarcerated, and was further suggested by the fight being made by the Lunacy Commission for the State care of the insane.

In reviewing the bibliography of psychiatry and the care of the insane we find that it furnishes one of the most interesting studies of the human race. In the dense ignorance of the Middle Ages the unfortunate possessor of an evil spirit had little chance of life itself, and such a thing as amelioration of his sufferings would have been regarded as high treason to the Church and State, if not actual complicity with the devil. The poor unfortunate was the legitimate prey of his guardian or jailer, and no torture was too unhuman to be countenanced as a service to society. With the coming of the Renaissance the condition of the mentally decrepit remained practically unchanged. Both the populace and the clergy found in him an all too ready scapegoat for their many sins, and the accusing finger, once having been pointed, ignorance and superstition perpetuated the accusation even, in some small degree, to the present day. It is a story of a long and hard struggle which science and humanity have waged against ignorance and superstition to overcome ancient prejudices and to establish institutions to carry out their humane purpose, and today there is probably no question with which the State and counties are confronted, whether viewed from a social, medical or economic standpoint, as important as that of securing proper care and humane treatment for their dependent insane.

Among the dependent insane are to be found men and women from all walks of life, most of them self-respecting and self-supporting prior to their mental breakdown, and many who were taxpaying members of society. For these unfortunates we are duty bound to provide adequate care and competent medical supervision.

Can it be said that we are doing this for the large number of insane who are confined in the various county almshouses? In order to answer this question it is essential that we should be thoroughly familiar with the almshouse care of the insane as practiced in Maryland today and compare it with the treatment provided by scientific men.

At Bayview, the largest and, in some respects, the best almshouse in Maryland, the care of the insane, viewed from a medical

*Read at the semi-annual meeting of the Medical and Chirurgical Faculty, September 16, 1909.

standpoint, reflects a less enlightened age than our own. The buildings are antiquated and wholly unfit to serve for hospital purposes, the wards are overcrowded and the facilities for handling the insane wholly inadequate. There is no separation of convalescent males from the chronic males; the females are only classified as to whether they are quiet or excited, and evil example and mental contagion arising from close association with turbulent cases is evident on every hand. The whole atmosphere of the institution life is narrow and unwholesome to everyone who has to breathe it.

Occupation on the farm and in the laundry is furnished to only a limited number of patients, the remainder spending their time brooding over their condition and incarceration. During the summer months the patients are allowed to spend the greater part of the day in the parks set aside for that purpose, there being one for the males and one for the females, and the chronic, convalescent, blacks and whites all being thrown together. In the winter months the patients are confined to the wards, and no amusement is furnished excepting a bi-monthly dance, at which possibly 50 patients are entertained. The nursing is in the most part done by people who have had no previous experience, and are, therefore, unsuited to act in this capacity. Cells and mechanical restraint are frequently used to subdue patients with violent and destructive tendencies. The medical supervision is the best that can be had with the limited number of physicians and poor equipment furnished. Incipient cases, which we know to be the only stage of the disease of which recovery is expected within a reasonable length of time, often pass into the chronic stage from lack of proper isolation from advanced cases.

During my incumbency I have frequently seen patients who were the sole support of large families admitted to the institution while in the incipient stage, who, with the proper care and treatment, could have been restored to the rank of bread-winners, but who, from association with the chronic insane, passed into a hopeless state of mental deterioration.

The care afforded in the smaller almshouses can perhaps best be described by referring to the last report of the State Lunacy Commission, which is based upon a personal investigation by its secretary of each institution that receives insane patients.

The Caroline County Almshouse, which this report states is one of the best on the Eastern Shore, is described as having very good quarters for the paupers, but no provision whatever for the insane, and it speaks of a house which adjoins the main building, used by several insane negro men and women, as being distressingly dirty and shamefully neglected. There is no employment or recreation furnished the patients; there is no separation of sexes; only one attendant, who is a white male inmate; one patient suffering from tuberculosis, and no adequate precaution taken to prevent spread of the disease. Of restraint it is perhaps best to quote the report verbatum:

"It was stated that restraint was not used. The attendant, however, described in glowing terms his method of handling the excited cases, especially one old epileptic negro woman. His method was to knock her down with his fist, and if that did not suffice, he usually had a club near at hand to strike her over the head, which naturally quieted the disturbance. He did not seem to think such methods were at all objectionable."

There is no infirmary or special provision made for the sick, and the physician is reported as visiting the institution monthly or on call.

With but few exceptions the other county asylums and almshouses throughout the State were found to be lacking in practically every comfort and many of the absolute necessities of life. The buildings, unsuited to their purpose in the beginning, had become, through years of neglect and indifference, beyond description in their dilapidation and filth. Plumbing and sanitary appliances were practically unknown. Equipment for the material needs of the patients had been almost as entirely neglected as their mental, moral and religious welfare. In many cases there was no separation of the sexes, and ofttimes imbecile girls were found to be watched over by male keepers who were devoid of any proper training or experience in nursing. The wards, reeking with filth and vermin, were overcrowded with violent and disturbed patients, who served to render some of these institutions veritable "Bedlams." This, coupled with the woeful lack of medical supervision, pauperized substantially every inmate who failed to recover after a year's residence in an almshouse.

Having thus cursorily outlined the almshouse care of the insane in the State of Maryland, it is pertinent to inquire into the modern method of handling this class of patients.

In the modern care and treatment of the insane the highest place is given to its humane aspect, and everything is furnished that is determined to be essential to the recovery of those who are recoverable, as well as for the proper care, comfort and amelioration of those who remain unrecovered.

The buildings used for asylum purposes are equipped with clinico-pathological laboratories, operating-rooms, hydrotherapeutic apartments, and are equal in facilities and appliances to a general hospital. The medical and nursing staffs are specially trained for this line of work, and are of sufficient size to insure each patient individual attention. Acute cases, which we now know require, above all things, mental rest, isolation and separation from the stimuli of ordinary life, are adequately provided for. The monotony of existence, which to any patient with sufficient intelligence to note the passage of time must be something approaching to absolute torture, is combated with amusements and occupations best suited to the individual case.

Iron bars, cells and mechanical restraint, which are so suggestive of penal institutions, are replaced by open doors, well-kept dormitories and comfortable lounging-rooms. In fact, the whole

environment is changed, and every effort is made to convince the patient that he is being treated for a disease, and not being detained as a criminal. The results obtained from this method of treatment as compared with the almshouse care is that more patients are restored to their families, the ranks of wage-earners are increased, and the State and community are spared the burden of caring for a larger number of charges.

Psychiatry as a science has made wonderful strides in the past decade, but the almshouse care of the insane remains the same today as it was over a century ago.

I do not wish to cast reflection upon those who administer to these institutions, as they are probably doing the best they can

INTERIOR OF A ROOM AT A COUNTY ALMSHOUSE, IN WHICH A WHITE WOMAN HAS BEEN CONFINED FOR NEARLY EIGHT YEARS. NOTE THE DESOLATE CONDITION.

with the facilities at their disposal, but the lack of proper accommodation and supervision is still evident on every hand. If the taxation placed upon the people and the very insufficient inspection provided do not suffice to prevent filthy and insanitary surroundings—ruinous to decency and morality—and the utter neglect of occupation, then it is obvious that other methods must be put into operation.

In conclusion, I wish to state that the fight being made by the Lunacy Commission for the State care of the insane is a most commendable one, and if they receive the support they so richly deserve, it is to be hoped that relic of barbarism known as the "almshouse care of the insane" will soon be relegated to the past.

1820 North Charles Street.

HARVEY.

(1578-1657 A. D.)

EIGHTH OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter VIII.

The slow and tedious character of the advance of the medical science is well illustrated by the fact that it took something like 2000 years, counting from the Father of Medicine, for the discovery to be made that the blood undergoes a process of circulation in the body.

From the time of Aristotle medical men studied and pondered over the subject, but it remained for William Harvey, an Englishman, to first discover the truth and establish a fact that had existed since Adam.

Harvey was born at Folkestone on the first day of April, 1578, and was the oldest of seven sons of Thomas Harvey, a prosperous Kentish yeoman.

At an early age he was put to school at Canterbury, where he ramained for five years, after which he became a pensioner at Caius' College, Cambridge. The record of this event is still extant, and runs, translated from the Latin, as follows:

"William Harvey, the son of Thomas Harvey, a yeoman of Kent, of the town of Folkestone, educated at the Canterbury Grammar School, aged 16 years, was admitted a lesser pensioner at the scholars' table on the last day of May, 1593."

In 1597 he received the degree of bachelor of arts, and, having decided upon the study of medicine, he left England for the Continent, taking up a course at the University of Padua, noted for its anatomical school, in which the first great anatomist, Vesalius, and his successor, Fabricius, had taught.

It is interesting to note that, in 1893, what was supposed to be the Harvey coat of arms was discovered still to exist in the lower cloister of the ancient university.

Most of the European universities were then of two kinds, viz., those ruled by the masters of arts, and those ruled by the undergraduates. Harvey, belonging to the latter, had the distinction of being elected a *conciliarius,* or a member of the ruling council, an honor which demonstrates the high esteem in which he was held by his fellow-students.

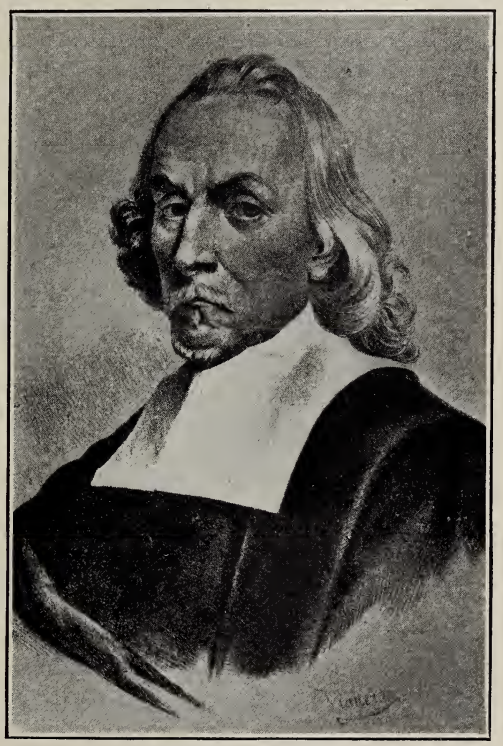
This body of undergraduates conducted the installation of the new rector of the university, a ceremony marked by many interesting and amusing features.

At the Cathedral the newly elected official solemnly received the rectorial hood, and was then escorted, with much pomp, to his home, where the students were entertained at a banquet provided by him. At the termination of the feast it was customary for the newly elected rector to permit the students to pull his vestments

off his back and tear them into shreds, he being later compelled to buy back the pieces at exorbitant prices. This ceremony was called the "Vestium Laceratio," and was finally abolished because of the "too horrid and petulant mirth of these occasions."

The theater in which the far-famed Fabricius conducted his anatomical lectures has been preserved to the present day, but was new in the time of Harvey.

It is a circular building, with an amphitheater composed of high-backed, uncomfortably straight seats, now quite black with age. There is no place for the entrance of daylight, so the room must have been lighted artificially. In this building two subjects were



WILLIAM HARVEY.

dissected annually, and the lectures were delivered usually between the hours of 6 and 8 in the morning.

Student days were evidently not all "beer and skittles," for it is recorded that Harvey's school quarters were of the poorest character, the room being almost bare of furniture and the windows were made of sheets of linen instead of glass. The food is said to have been scanty and poor, and the amusements were limited to those to be found among the students themselves.

Harvey's great interest in anatomy displayed itself at an early period of his career at Padua, and a close friendship soon sprang up between Fabricius and his English pupil. This intimacy

finally developed into the closest ties, and resulted in Harvey's elaboration, at a later date, of many of the pet thories of his friend and master.

Fabricius had rediscovered the valves of the veins, although their existence had been known and described by the close-fisted Sylvius, a brilliant lecturer, but of so miserly a disposition that it was declared of him that, rather than be at the expense of keeping a fire during the fierce winter, he kept off the cold by playing ball in his room. But his discovery of the valves of the veins was permitted to sink into oblivion, and Fabricius, in 1574, rediscovered them.

On April 12, 1602, the authorities of the University of Padua granted to Harvey the degree of doctor of physic, which carried with it the right to practice and teach medicine in all lands. The diploma was couched in most eulogistic terms, evidencing the high respect for the recipient. Among other things it said that "he had conducted himself so wonderfully well in the examination, and had shown such skill, memory and learning, that he had far surpassed even the great hopes which his examiners had formed of him. They decided, therefore, that he was skillful, expert and most efficiently qualified both in arts and medicine, and to this they put their hands, unanimously, willingly, with complete agreement and unhesitatingly." In the following year, having returned to England, he was given the degree of doctor of medicine at Cambridge.

Shortly after his admission to the College of Physicians he married Elizabeth, daughter of the distinguished Dr. Lancelot Browne, who was physician to Queen Elizabeth and to James I, and, somewhat later, made application for the appointment of physician to St. Bartholomew's Hospital, a record of which is still extant, and runs as follows:

"This day Mr. William Harvey, doctor of physic, made suit for the reversion of the office of the physician of this house when the same shall be next void, and brought the King's Majesty his letters, directed to the governors of this house, in his behalf, and showed forth a testimony of his sufficiency for the same place, under the hand of Mr. Doctor Adkynson, president of the College of the Physicians, and diverse other doctors of the ancienest of the said college. It is granted, at the contemplation of His Majesty's letters, that the said Mr. Harvey shall have the said office next after the decease or other departure of Mr. Doctor Wilkenson, who now holdeth the same, with the yearly fee and duties thereunto belonging, so that then he be not found to be otherwise employed, that may let or hinder the charge of the same office which belongeth thereunto."

The duties of the position at that date are laid down in "The Charge of the Physicians of St. Batholomew's Hospital," and is of great interest for that reason. It runs as follows:

"Physician, you are here elected and admitted to be the physician for the Poor of this Hospital, to perform the charge following, that is to say: One day in the week, at the least, through the

year, or oftener as need shall require, you shall come to this hospital, and cause the Hospitaller, Matron or Porter to call before you, in the hall of this hospital, such and so many of the poor harboured in this hospital as shall need the counsel and advice of the physician. And you are here required and desired by us, in God, His most holy name, that you endeavour yourself to do the best of your knowledge in the profession of physic to the poor then present, or any other of the poor at any time of the week which shall be sent home unto you by the Hospitaller or Matron for your counsel, writing in a book appointed for that purpose such medicines, with their compounds and necessaries, as appertaineth to the apothecaries of this house to be provided and made ready for to be ministered unto the poor, every one in particular according to his disease. You shall not, for favour, lucre or gain, appoint or write anything for the poor but such good and wholesome things as you shall think with your best advice will do the poor good, without any affection or respect to be had to the apothecary. And you shall take no gift or reward of any of the poor of this house for your counsel."

For all of which Harvey received the munificent salary of $125 per annum, which was later increased to $166.66.

On the 4th day of August, 1615, Dr. Davis having died, Harvey was appointed to the office of Lumleian lecturer, which position he occupied until his resignation in 1656.

This lectureship was one of the most important in England, and was arranged in a course of six series, extending over as many years.

The study of anatomy had taken on new life as a result of the act of Parliament of 1540, which permitted the dissection of four condemned malefactors annually, the number being extended later, the law, at the same time, making it compulsory for all surgeons to attend the dissections, which were usually public.

The public anatomies, as they were termed, were held about four times in the year, and were the occasions for the gathering of a large number of medical men and students. There were usually three bodies for demonstration, and the course was divided into the muscular, osteological and visceral lectures, each body being dissected to the best advantage of that particular branch of anatomy.

In keeping with the dignity of the occasion, there was considerable formality attached to the event.

The lecturer wore the doctor's degree cap and sat near the center of the table, wand in hand. The actual demonstrations were usually made by an assistant, known as the demonstrator. Two other assistants, termed the masters of anatomy, used the dissecting instruments as required to expose the parts being described. The audience formed a circle about the table. A mat was placed upon the floor, so that the lecturer ran no risk of catching cold, and he was supplied by the Barber Surgeons' Company with two fine white rods, so that he might avoid touching the body

with his hands if he so desired; also a candle, two aprons and two pairs of sleeves.

The entire proceeding of a *public anatomy* was gone through according to rule. The date having been decided upon, the clerk forwarded formal invitations to all eligibles, requesting each to wear the flat cap and gown, as may be his privilege, and assigning to each a seat. The visitor made his way to the hall parlor, donned his gown and joined the Court of Assistance, or Council. The procession, which included the beadles, the clerk, the doctor and the gentlemen of the court, made its way to the theater. The company being seated, the clerk presented the doctor with a wand and retired.

When the demonstration was at an end the clerk returned, took the wand from the doctor's hand, and, being informed of the hour for the afternoon session, he stepped into the center of the court and made the announcement. The clerk then started the procession for the hall parlor, followed by the doctor and the rest of the company, where they took off their gowns and regaled themselves with a sumptuous repast. The dinner being over, the procession once more re-formed and made its way, for the afternoon session, to the theater.

This was repeated for three days, at the end of which the clerk presented to the lecturer the sum of 10 pounds, folded up in a piece of paper. Each of the assistants received 3 pounds.

The demonstrator was allowed the use of the subject for the purpose of demonstration to his pupils for three days following the completion of the lectures.

A surgeon who, for any unsatisfactory reason, absented himself from these events was duly fined, and anyone conducting an *anatomy* not in accordance with the law was also heavily mulcted.

The program for the day was a lecture in the morning, a feast at noon and another lecture in the afternoon.

D'Arcy Power, in his excellent "Life of Harvey," quotes an account of one of these occasions, mentioned by Pepys, under date of February 27, 1662-63:

"About eleven o'clock, Commissioner Pett and I walked to Chyrurgeon's Hall, where we were led into the Theatre: and by and by comes the reader, Dr. Tearne, with the Master and Company, in a very handsome manner; and, all being settled, he began his lecture,—this being the second upon the kidneys, ureters, etc., which was very fine; and his discourse being ended, we walked into the Hall, and there being great store of company, we had a fine dinner and good learned company,—many Doctors of Phisiq, and we used with extraordinary respect. * * * Thence, with great satisfaction to me, back to the company, where I heard good discourse; and so to the afternoon lecture, upon the heart and lungs, etc.; and that being done, we broke up, took leave, and back to the office."

This account truly demonstrates how congenial the study of science was made in those days.

The course covered by the Lumleian lecture gives a good idea

of what the medical curriculum consisted in Harvey's time. He discoursed every Wednesday and Friday from 10 to 11 o'clock—three-quarters of an hour in Latin and the remainder in English—for the benefit of those who were not well versed in the classics.

During the first year he devoted himself to the tables of Horatius Morus, which was an epitome on surgery, and included "swellings, wounds, ulcers, bone-setting and the healing of broken bones, commonly called fractures."

He also lectured on certain of the works of Galen and Oribasius, and he wound up the year's work by "dissecting openly in the reading-place all the body of man, especially the inward parts, for five days together, as well before as after dinner, if the bodies may last so long without annoy."

During the second year he continued his course in surgery, and dissected "the trunk only of the body—namely, from the head to the lowest part where the members are, and to handle the muscles especially."

The third year was taken up by the study of wounds, and in the winter he dissected the head.

In the fourth year he discoursed on ulcers, and dissected "a leg and an arm for the knowledge of muscles, sinews, arteries, veins, gristles, ligaments and tendons."

During the fifth year he read the sixth book of Paulus Ægineta, and in the winter the osteological structures were taken up in connection with a study of certain instruments used in setting bones.

The last, or sixth year, Holerius was read, especial attention being paid to the practical and medicinal branches.

Many of the manuscript notes of these lectures are now in the possession of the British Museum and demonstrate the great care with which Harvey prepared for his courses.

Among them is found the first mention of his great discovery, which, however, was not given to the public until 12 years later.

"It is plain, from the structure of the heart, that the blood is passed continuously through the lungs to the aorta as by the two clocks of a water bellows to raise water. It is shown, by the application of a ligature, that the passage of the blood is from the arteries into the veins. Whence it follows that the movement of the blood is constantly in a circle and is brought about by the beat of the heart. It is a question, therefore, whether this is for the sake of nourishment, or rather for the preservation of the blood and the limbs, by the communication of heat—the blood cooled by warming the limbs, being in turn warmed by the heart."

Harvey soon acquired such skill and reputation that he was appointed in 1618 physician extraordinary to James I, being at the same time promised the place of physician in ordinary when the vacancy should occur. His patients included some of the men of greatest prominence, among whom was Lord Chancellor Bacon. They later became fast friends, although Harvey never could see in this extraordinary man the great merit attributed to him.

In 1628 Harvey published his discovery of the circulation of the blood, and, remarkable as it may appear, his practice at once fell

off greatly, many of the public declaring him crack-brained, and the medical profession, almost as a whole, opposed his theory. It was suddenly discovered that his knowledge of the practice of medicine was quite mediocre and all sorts of ridiculous charges were made against him. What few friends he had remaining belonged to the College of Physicians, of which he had for many years been a censor, and it was perhaps as a means of relaxation from his trials that he accepted the command of the King to travel abroad with the young Duke of Lennox for three years.

Upon his return he was appointed ordinary physician to Charles I and received a yearly salary of $1500. The professional acquaintance soon ripened into a personal friendship which extended all through the later trials of that luckless monarch.

It is one of the peculiarities of human nature that often a great truth will be scoffed at while a most ridiculous rumor will receive the belief of multitudes.

Although Harvey could find few to take his great discovery seriously, yet almost at the same time the foolish assertion of a half-witted boy that he had encountered a number of witches in a Lancashire forest was believed by thousands. The boy had played truant from school, and, wishing to cover up his own misdeed, he declared that while passing through the wood he had observed two large greyhounds standing watching a passing hare. Wishing that the beasts give chase, he picked up a stick and was about to beat them, when, lo and behold! one of the dogs changed into Mother Dickenson and the other into her little boy. She offered the truant, Robinson, some coin to sell his soul to the devil, which, of course, the truthful lad refused, which was no sooner done than the old woman took out from her pockets a bridle, which she threw over the head of her child, who instantly became a horse. Putting the young Ananias onto the animal's back, she jumped on herself, and off they rode, through woods, fields, bogs, creeks and rivers, moving with such rapidity that almost before it takes to tell it they arrived at a great barn. Having entered, he observed seven very old women pulling at the same number of halters, from which dropped all sorts of good things to eat, including lumps of meat, loaves of bread, pieces of butter, jars of milk and hot, steaming puddings. A great feast was spread out on the floor, and many other witches entered and made merry.

The report of this good lad's experience spread like wildfire, and the number of witches soon grew to a multitude.

The King's men quickly put a great number of suspects under lock and key, and the enlightened courts of justice, as a result of the boy's straightforward story, condemned something like 19 of the poor wretches *al instanter*. All sorts of disasters were charged to their infernal machinations, and it was even intimated that the storm experienced by His Majesty while at sea recently was, no doubt, to be attributed to their baneful influence.

Three of the unfortunates died of fright while awaiting sentence. One brooded over her fate so much that she finally con-

fessed to having been a witch for the past six years. "There appeared to her a man in black attire, who said if she would give him her soul she should have power to hurt whom she would. He called himself Mamilion, and appeared in the shape of a brown-colored dog, a white cat and a hare, and, in these shapes, *sucked her blood.*"

King Charles appointed a board to investigate the story, and Harvey was named the medical representative.

The midwives, who made the physical examinations, reported that nothing could be found to substantiate the story of blood-sucking, and Harvey recommended that the prisoners be discharged, a recommendation which was carried into effect.

About the same period Charles I issued his famous proclamation limiting the time of His Majesty's administrations for the cure of the "king's evil," an ulcerous disease very prevalent for several centuries.

The famous "cures" were said to be brought about by the simple touch of the King.

For something like 600 years the belief in the power of the royal touch to cure this disease extended unabated. In 1682 the King touched 8577 diseased subjects.

Stowe gives the history of the origin of this superstition as follows:

"A young woman was afflicted with this disorder in a very alarming manner and to a most disgusting degree. Feeling the uneasiness and pain consequent upon it in her sleep, she dreamt that she could be cured by the simple operation of having the part washed with the King's hand. Application was consequently made to Edward by her friends, who very humanely consented to perform the unpleasant request. A basin of water was brought, with which he carefully softened the tumors until they broke and the contents discharged; the sign of the cross wound up the charm, and the female retired, with the assurance of his protection during the remainder of the cure, which was effected within a week."

The outbreak of the great Civil War found Harvey on most intimate terms with Charles I, and when the King deemed it convenient to take up his residence at Oxford he was accompanied by his friend and physician. However, when the unfortunate monarch was taken in charge by Cromwell's men Harvey severed his connection with court life, and, at the age of 68, returned to London to resume practice, only to shortly afterwards turn over his work to his very good friend, Dr. Scarborough, for the gout and other infirmities had reduced him to inactivity.

During the early prime of his life he was described as being of short stature, but very robust, small, round, enthusiastic, and very black eyes, curling black hair, utterance rapid and gesturing.

At the time of his retirement, however, the infirmities of age and the result of hard work had already made themselves manifest, and he no longer felt equal to the labor of an active practice.

It is related of him that he was accustomed to treat his gout by

placing the diseased leg into a bucket of the coldest water in the midst of winter, and permitted it to there remain until he was almost dead from the cold; then he would rush into a warm room, and the pain had already disappeared.

This rather radical treatment did not seem to have any ill effect, for he lived to the age of 80. Many anecdotes are related of him during his retirement, and he is said to have had many harmless eccentricities, among which was his insisting that his salt cellar at table be always filled with sugar. He is said to have usually combed his hair during his morning walk in the fields. He was always most punctual at the meal hour, and, the appointed time having arrived, he invariably took his seat and began eating, whether anyone else had yet arrived or not. He was rather fond of the darkness, declaring that he could think better then, and it is related that while at the country home of his brother during the summer he had dug for himself a cave, into which he would go and meditate.

Although this great medical benefactor had made the first announcement of his discovery in 1616, it was not until 1621 that it was elaborated and published. The work was entitled "An Anatomical Treatise on the Movement of the Heart and Blood in Animals," and contained 72 pages, divided into 17 chapters. His book is a simple and clear exposition of his theory of the circulation; but, as the compound microscope had not yet been invented, he was compelled to limit himself to the use of the simple lens, and therefore was unable to demonstrate the existence of the arterioles and the venules. This was left until 1675, when Leeuwenhoeck, by means of the newly invented compound microscope, discovered the capillary circulation and blood corpuscles, already, however, observed by Malpighi.

The knowledge of the function and mechanism of the heart and blood had hitherto been vague and uncertain. The traditional *spirit* and *calidum innatum* had not yet shaken off their hold on medicine, and were still resorted to as a means of covering up professional ignorance.

The heart, according to the then existing theory, was the heat-producing center, and the blood was drawn into it during diastole and expelled during systole. This was the limit of the heart's mechanism. The arteries contained air (although Galen had taught otherwise), which fanned and cooled the blood. The pulse represented the pressure on the vessel, as the air alternately dilated and compressed it. As for the lungs, it was maintained that they only fanned, and thus cooled, the blood in the heart. The arteries, further, sucked in air during dilation, and, when contracted, forced out certain vague poisonous vapors, which escaped through the muscles and skin. The veins alone contained blood, and they had their source in the liver.

In 1553 Michael Servetus maintained that the blood was returned to the left side of the heart from the lungs by means of the pulmonary veins, but his discovery proved the cause of his death, for Calvin had his works burned and the author with them.

Cesalpinus and Columbus took up the work at this stage and improved on the knowledge of the lung circulation.

Harvey found himself beset with many obstacles in establishing his theory to his own satisfaction. He relates how he "found the task so truly arduous and so full of difficulties that he was almost tempted to think, with Fracastorius, that the movement of the heart was only to be comprehended by God. For he could not rightly perceive at first when the systole and when the diastole took place, nor when and where dilatation and contraction occurred by reason of the rapidity of the movement, which, in many animals, is accomplished in the twinkling of an eye, coming and going like a flash of lightning."

However, he persisted, and finally became fully convinced of the true movement and use of the heart and arteries. He found that by studying the colder animals, such as toads, frogs, serpents and certain fishes, he could more readily observe the heart's action.

To disprove the air theory of the pulse he was accustomed to declare "that the pulses of the arteries are due to the impulses of the blood from the left ventricle, and may be illustrated by blowing into a glove, when the whole of the fingers will be found to become distended at one and the same time, and in their tension to bear some resemblance to the pulse."

Harvey made endless experiments on the lesser and colder animals before he was convinced of the heart's action, and it is to these that he owed the elaboration of his great discovery.

The simplicity and straightforwardness of his proofs are demonstrated by the following:

"In serpents and several fish, by tying the veins some way below the heart, you will perceive a space between the ligature and the heart speedily to become empty; so that, unless you would deny the evidence of your senses, you must needs admit the return of the blood to the heart. If, on the contrary, the artery instead of the vein be compressed or tied, you will observe the part between the obstacle and the heart itself to become inordinately distended, to assume a deep purple, even a livid, color, and at length to be so much oppressed with blood that you will believe it about to be choked; but, the obstacle removed, all things immediately return to their natural state in color, size and impulse."

In regard to the circular motion of the blood, he says:

"I began to think whether there might not be a movement, as it were, in a circle. Now, this I afterwards found to be true, and I finally saw that the blood, forced by the action of the left ventricle into the arteries, was distributed to the body at large, and in several parts, in the same manner as it is sent through the lungs, impelled by the right ventricle, into the pulmonary artery, and that it then passed through the veins and along the vena cava, and so 'round to the left ventricle, in the manner already indicated. This movement we may be allowed to call circular."

Demonstrating that the heart continuously transmits the blood from the vena cava to the arteries; that the blood, as a result of

the arterial pressure, is forced through and to every part of the body, and that it is then returned by the veins to the heart, he declares that, "these points being proved, I conceive it will be manifest that the blood circulates, revolves, is propelled, and then, returning from the heart to the extremities, from the extremities to the heart, and that it performs a kind of circular movement."

Much of our present knowledge of the circulatory system may be directly traced to the work of Harvey.

He not only demonstrated the truth of the circulation, but made many important strictly anatomical discoveries. As has already been mentioned, he had, as a student, learned much about the valves of the veins from his teacher, Fabricius; but it took the skill of Harvey to discover their real use.

His "Treatise on Development," though a work of great importance, did not lead to so vast a revolution in medicine as did his work on the circulation. But it also demonstrates how truly great a man this master was in his profession and how marvelous were his powers of accurate observation and deduction.

But Harvey had many difficulties to overcome, and he met with much opposition. However, he seems never to have wavered in the defense of his theory, and usually met the foe with action in keeping with his gentle nature.

"To return evil speaking with evil speaking, however, I hold to be unworthy in a philosopher and searcher after truth. I believe that I shall do better and more advisedly if I meet so many indications of ill-breeding with the light of faithful and conclusive observation."

But he later goes on to say that "It cannot be helped that dogs bark and vomit their foul stomachs, or that cynics should be numbered among philosophers; but care can be taken that they do not bite or inoculate their mad humors, or with their dogs' teeth gnaw the bones and foundations of truth. Detractors, mummers and writers defiled with abuse, as I resolved with myself never to read them, satisfied that nothing solid or excellent, nothing but foul terms, was to be expected from them; so I have held them still less worthy of an answer. Let them consume on their own ill-nature. They will scarcely find many well-disposed readers, I imagine; nor does God give that which is most excellent and chiefly to be desired—wisdom—to the wicked. Let them go on railing, I say, until they are weary, if not ashamed."

But Harvey had the satisfaction to live to see all of his detractors and opponents swept away, for, before his death, all the world had already recognized the truth and importance of his great discovery.

On the third day of June, 1657, he died, having reached the age of 79. His body was "lapt in lead" and placed, coffinless, within the vault of the Harvey Chapel at Hempstead.

In 1883 the College of Physicians made certain necessary repairs to the leaden repository and translated it to a sarcophagus erected by the college.

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This Department is Under the Direction of the Commissioner of Health

SOME FACTS ABOUT THE WIDAL REACTION.

Considering the fact that the Widal reaction has at present gained such a foothold in the serum diagnosis of typhoid fever and that quite a number of practicing physicians consider the reaction specific, I think it might be of interest and value to review some of the literature and make some deductions from some of the later cases examined at the Laboratory of the City Board of Health.

The Widal reaction depends upon the presence of bodies in the blood known as agglutinins, which, of course, are of different varieties, depending upon the antigen or substance which gives rise to them, thus we have agglutinins for the blood (haemo-agglutinins), agglutinins for micro-organisms (bacterio-agglutinins), etc. Of course, different varieties of bacteria, as well as blood from different species, give rise to correspondingly different agglutinins. Although, as a rule, it takes either natural infection or injection of the antigen to give rise to these bodies in the serum, it is widely known that they exist normally in the sera of some animals; for instance, fowl serum has a powerful agglutinating action upon the corpuscles of the rat and rabbit, and the venom of serpents contains powerful agglutinins.

Bacterial agglutinins generally appear during immunization, whether it be active or passive, and are considered more or less specific. They appear more abundantly in the peripheral blood and experiments go to show their production by the leucocytes, although most of the experiments were done under such artificial conditions as to leave the question undecided. The real chemical

composition of these bodies has never been determined, but it has been definitely shown that they either belong to or are definitely associated with the albuminoids of the serum and are very resistant to both drying and heating, a temperature of 60 degrees centigrade not having a marked effect upon their agglutinative action.

The process of agglutination consists primarily of an inhibition of the movements of the organism, and, later, a grouping or clumping as if the organisms were seeking mutual support from a force which was hostile to their existence. Beside the physical phenomena of the agglutinating process very little is known. This phenomenon was observed as early as 1889 by Chavin and Rogers while working with the bacillus of green pus. When growing these organisms in the serum of an animal which had been immunized they failed to get the turbidity of the medium as they did when working with the same organism in the serum of an animal which had not been immunized. Metchnikoff, in 1891, established an analogous fact with the pneumococcus and the Vibrio Metchnikovi and Gruber and Durham, in 1896, gave the first systematic and thorough studies of the process, dealing with both the microscopic and macroscopic tests, dilutions, differentiation of species, etc., but failing to give the test its real value. It remained for Widal to apply the test in the diagnosis of disease, which he did in the same year, publishing a paper which attracted world-wide attention and the contents of which was soon confirmed by many French and American observers.

There are many methods for carrying out this test for the diagnosis of typhoid fever, but the ones generally used in this country are the dilution of serum or the dried blood test. If the serum is used it is diluted 25 times and an equal amount of a 24-hour bouillon culture of motile typhoid bacilli added, making a dilution of 1 to 50. This is left stand for two hours and then examined microscopically for clumps of the bacilli and cessation of motility and when found, of course, the reaction is pronounced positive. In the dry blood test the blood is scraped from the receptacle and 1 milligram weighed and dissolved in 100 cu. millimeters of sterile water, then by taking equal parts of this dilution and a 24 hour bouillon culture we get a dilution of 1 to 200, assuming that the agglutinins in the blood have been concentrated four times by the drying. This then equals a dilution of serum with a strength of 1 to 50. This lattter method is used by the City and State Boards of Health, and the results interpreted as positive when there is clumping and complete inhibition of the movements of the typhoid bacilli, suspicious when clumping is present but without complete inhibition of the movements of the bacilli, and negative when no clumping appears and motility is still present.

Having had this light resume of the process of agglutination let us take up the reaction in its relation to tyhpoid infections, taking in order the specificity, occurrence, intermittancy, etc., of the reaction. While the action of the agglutinins bears a close

relation to immune bodies, it has been conclusively proven that they are unlike them in that they are not absolutely specific. (1) Several instances of this have been noted at the laboratories of the City Board of Health where they have had colon and paratyphoid bacilli to agglutinate typically with immune typhoid serum at dilutions of 1 to 1000.

The occurrence of these bodies in the blood of typhoid patients has been found to be fairly constant, Cabot finding them present in 97.2 per cent. of cases in a series of 5974 cases which he collected. Although the reaction occurs in this percentage of patients, the time of its appearance and the constancy of its presence is very variable, appearing as early as the first day of the disease and as late as the 36th, and even after their appearance in the blood the quantity varies from hour to hour, generally being greatest when the fever is highest and declining with the fall of temperature, while in a certain number of cases their presence is intermittent; i. e., present on one day and absent on others. (2) Agglutinins may disappear from the blood in a very short time after convalescence, this being especially true in children, while in adults it lasts from a few months to a year or more, and a number of cases are reported which have given the reaction after several years, one case having had typhoid fever 37 years previous. These latter cases are probably the carrier cases which are at present receiving so much attention from investigators. In summing up the results of 1026 cases which gave agglutination at the City Board of Health we find the following:

Positive cases or those which gave agglutination with complete inhibition of motility 795, or 77.42 per cent.

Suspicious cases or those which gave agglutination without complete inhibition of motility 231, or 22.51 per cent. Probably most of these later cases were clinically typhoid giving an incomplete reaction, and in a great number of cases the physician seems to have taken a report of suspicious as indicative of typhoid, and the majority of cases have not sent a second specimen of blood for examination. In a good proportion of the suspicious cases which were examined twice a positive reaction was given, while a number remained suspicious and a few became negative. These suspicious cases demonstrate very well the variability of the agglutinins in the blood. It is interesting to follow the curve made by the percentage of positive and suspicious reactions occurring on succeeding days. Rising slowly to the third day, it begins a rapid ascent to the seventh day, where it attains its greatest height; then dropping gradually to the 10th day, it again takes a rise, and then slowly drops to a very low percentage on the 13th, with another jump at the 14th day. This again descends rapidly and runs a fairly even course until the 21st day, when it takes another rapid rise, after which we find a few primary positives.

Expressed in percentages we would have on the 1st day: .09

(1-2) Cabot: Serum Diagnosis of Disease. 1898.

per cent.; second, 1.46 per cent.; 3d, 2.14 per cent.; 4th, 5.37 per cent.; 6th, 8.96 per cent.; 7th, 16.86 per cent.; 8th, 11.11 per cent.; 9th, 3.89 per cent.; 10th, 11.98 per cent.; 11th, 4.09 per cent.; 12th, 4.28 per cent.; 13th, 0.5 per cent.; 14th, 9.74 per cent.; 15th, 1.4 per cent.; 16th, 1.2 per cent.; 17th, 0.7 per cent.; 18th, 0.6 per cent.; 19th, 0.5 per cent.; 20th, 0.6 per cent.; 21st, 2.4 per cent; 22d, 0.4 per cent.; 23d, 0.2 per cent.; 24th, 0.0 per cent.; 25th, 0.2 per cent.; 26th, 0.0 per cent.; 27th, 0.1 per cent.; 28th, 0.6 per cent.; 29th, 0.0 per cent.; 30th, 0.1 per cent. (See curve on chart).

This, I think, gives a fair idea of the day upon which we find the agglutinins appearing in the blood of typhoid patients. To begin with, it appears at any time during the course of the disease, but very markedly on the 5th, 10th, 14th and 21st days. The number of late reactions is at times astonishing, and while going over the above cases I came across quite a few records which gave late reactions after repeated negative results. The first tests were made between the fourth and twenty-first days, and all gave negative results, and after repeated examinations they all gave positive results in from 8 to 33 days.

First examination between	Positive results between	No. of cases.
4th and 8th days.	11th and 12th days.	7
5th and 14th days.	14th and 16th days.	6
7th and 10th days.	17th and 21st days.	5
5th and 21st days.	22d and 33d days.	8

Making in all 26 cases giving repeated negative reactions and finally showing the presence of agglutinins in three-fourths of the cases after the fourteenth day, and in nearly one-third not until after the twenty-second day.

The Reports of the City Board of Health give the following results from blood examinations for 1904, 1905, 1906 and 1907:

	Positives.	Negatives.	Suspicious.
1904	615	788	153
1905	548	1035	79
1906	604	1236	197
1907	721	1348	280
Totals	2488	4404	709=7641

Making 57.6 per cent., or over half of the total number of bloods examined for four years' negative, 32.56 per cent. positive and 9.14 per cent. suspicious, giving a total of 41.70 per cent., which gave the reaction, showing the value of this method in differential diagnosis. No doubt a great percentage of the negatives were sent to the laboratory to exclude typhoid fever and sometimes proved to give a positive or suspicious reaction, thereby a clue to the diagnosis, and other times by repeated negative results dif-

ferentiating an appendicitis, colitis, etc., from typhoid. Beside this we can see as most of the positive and negative results were given on the first examination that the reaction corroborated the physical and clinical signs in about 41.70 per cent. of the cases. On the other hand, we get a glimpse of the great proportion of cases of continued fever which resemble typhoid, but after repeated examination prove something else.

Conclusions: 1. The action of the agglutinins is not specific, the time of their appearance in the blood is variable, sometimes appearing early and other times late. The quantity or strength is constantly varying and at times is intermittent.

2. The Widal reaction is of great value in the diagnosis of typhoid fever and in the differential diagnosis of other diseases, but no diagnosis should rest absolutely on this test and should only be used as a valuable adjunct to the clinical observations and physical signs.

Frederic V. Beitler, M.D.,
Assistant Bacteriologist.

Studies in Rabies. Collected Writings of Nathaniel Garland Keirle, Professor of Medical Jurisprudence and Emeritus Professor of Pathology, College of Physicians and Surgeons; Director of the Pasteur Institute, Baltimore, Md., with an introductory by William H. Welch and a biographical sketch by Harry Friedenwald. Testimonial edition. Cloth Bound. Baltimore: The Lord Baltimore Press. 1909.

This volume is a complete record of the work of Dr. Nathaniel Barland Keirle in his specialty—rabies, a phase of medicine to which he has dedicated a goodly portion of his life. Dr. Keirle's contributions in rabies have been numerous and authoritative, and have left an impress upon American medicine.

Especially along the lines of preventative treatment of rabies has Dr. Keirle been eminently successful, and of necessity any studies issuing from his pen will be of more than ordinary interest and value.

The committee in charge of the publication and the subscribers who made the volume possible are to be congratulated. Added value is given the book by an excellent half-tone frontispiece of the author.

Manual of Therapeutics. Detroit: Parke, Davis & Co. 1909.

This is a second edition, revised to date, of the well known handbook of this enterprising firm. It contains an alphabetic list of their products, with many points on therapeutics and practice very helpful to the busy practitioner.

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D. *Editor*

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BALTIMORE, NOVEMBER, 1909

THE GENERAL PRACTITIONER AND TUMORS OF THE BREAST.

EVEN with the advent of modern surgery and the well-known impunity with which competent operators now attack tumors of the breast, still the good old family doctor advises his patients to delay. With the declaration of the best authorities that 85 per cent. of all tumors of woman's breast commence as malignant, and that of the remaining 15 per cent. one-half, if unoperated, take on malignancy, the appeal of the surgeon to the internist to refer tumor of the breast early should be heeded. The good old way of advising patients seeking your advice about "lumps" in the breast to await development is, to say the least, cruel, for if malignancy should perchance supervene the percentage of absolute cures are reduced from 85 per cent. to 25. If the tumor should be benign, no danger is incurred by the operation, and cure is assured. Moreover, 7 per cent. of possible cancer victims are spared the possibility of that affliction. According to Judd (*St. Paul Medical Journal*) precancerous predisposition exists in a majority of cases of tumor of the breast, the cure of which prevents development of cancer. The best evidence of this precancerous stage is evidenced in fibroadenoma of the breast, chronic mastitis and cysts.

Always bear in mind the possibility of cancer when women seek your advice concerning innocent little growths in the breast, and impress upon them the necessity of having all tumors of the breast removed owing to the likelihood of its undergoing cancerous degeneration. Impress upon them the simplicity and lack of danger of operative interference in the former condition, and the great mutilation and bad prognosis associated with the latter. The story

has never been told and never will be of the lives sacrificed by heeding the advice of good-meaning but poorly-informed family physicians to await developments, for at the present time there exists only a single curative measure for any type of tumor of the breast—operative.

STAGE-FRIGHT.

STAGE-FRIGHT is one of the few phobias that has not received the attention the subject deserves, and yet it represents a condition that might well be studied by medical men. It is a condition by no means limited to members of the theatrical profession, although from time immemorial it has been the great bugbear of those who must appear before audiences. No amount of efficiency seems to entirely protect its victims from attack, for it has been known to get hold of the oldest stager as well as the veriest novice. Speakers and actors of many years' experience in public have proved victims at times, and in the case of members of the theatrical profession the "first night" is a most trying time on account of the fear of being grasped by its dreadful tentacles.

Under the heading of "frights" may be included a number of fears, such as stage-fright and people-fright, or bashfulness. T. Claye Thaw, in the *British Medical Journal,* makes some interesting comments in this connection. Victims are usually found in two classes of people—those who are novices and are afraid, and those who have a reputation to uphold and are frightened lest they disappoint their auditors. Physiologically speaking, the emotion of fear brings about a paralysis of thought, action and speech. Another writer, Professor McDougall, declares that with fear is intimately connected an instinct to flight and concealment. That is why the stage-fright subject "would have liked to have sunk under the floor" or "would have given anything to have been able to run away."

The choking sensation at the throat, the rush of blood to the head, the hurried respiration and the bounding pulse are caused by an uncontrollable impulse from the fright center. So are the slackened respiration and pulse preceding these. The sudden loss of memory is probably due to the centralization of all brain activity on the one single thought that the speaker is in the presence of an audience. McDougall calls this monoideism.

The subject is an interesting one and would be well worth developing.

Medical Items.

St. Joseph's Hospital reports 2800 patients admitted during the year 1908, as compared with 2600 in 1907.

The trustees of the Church Home and Infirmary entertained the medical staff on the afternoon of October 11.

Dr. Nathaniel G. Keirle was tendered a banquet at the Maryland Club on the occasion of his 76th birthday by a number of physicians.

An examination will be held by the Civil Service Commission for the position of Medical Supervisor, Indian Service, on November 24.

Drs. Wm. T. Watson, W. P. Miller and John S. Fulton have returned from a trip abroad.

Miss Nancy P. Ellicott, formerly of the Church Home and Infirmary, will, on November 1, assume the position of superintendent of the new Rockefeller Hospital.

Mrs. Reginald Foster, widow of Dr. Reginald Foster, has been appointed head of the Visiting Nurse Department of the Phipps Tuberculosis Dispensary at the Johns Hopkins Hospital, to succeed Mrs. Martha Fortune.

John D. Rockefeller has given $1,000,000 to assist in the campaign against the hookworm disease. Drs. William H. Welch and Simon Flexner are among the men invited to form a commission for the eradication of this disease.

The third midyear meeting of the American Academy of Medicine will be held at Lampson Hall of Yale University, New Haven, Conn., November 11 and 12, 1909. The subject of the meeting will be "The Prevention of Infant Mortality."

The Medical Society of Virginia met on October 7 and elected officers for the coming year. One of the leading papers read was by Dr. L. L. Lumsden of Washington, D. C., and was entitled "What the Practicing Physician Can Do in the Prevention of Typhoid Fever."

The chief medical examiners of the relief department of six railroad companies met in Baltimore recently and organized an association for the exchange of experiences and in a general way to promote the work of the medical and surgical corps under their direction.

The junior medical class of the University of Maryland has elected the following officers for the ensuing year: President, Willis Lynn, New York; vice-president, William M. Byerly, Maryland; secretary, B. S. Boyer, Maryland; treasurer, Louis H. Douglass, Maryland; historian, Henry D. Causey, Delaware; sergeant-at-arms, Kenneth B. Jones, Maryland.

The Frederick County Medical Society will hold its annual election of officers on Wednesday, November 10, 1909. The following papers will be read: "Cholelithiasis, Etiology and Symptoms," by Dr. M. L. Birely; "Treatment of Gall Stones," by Dr. F. M. Hedges; "Jaundice," by Dr. Levin West, and will be followed by a discussion by Drs. Beckley, Haffner and Fout.

The president of the American Gynecological Society has appointed a committee to report at the next annual meeting in Washington on the present status of obstetrical teaching in Europe and America and to recommend improvements in the scope and character of the teaching of obstetrics in America. The committee consists of the professors of obstetrics in Columbia University, University of Pennsylvania, Harvard, Jefferson Medical College, Johns Hopkins University, Cornell University and the University of Chicago. Communications from anyone interested in the subject will be gladly received by the chairman of the committee, Dr. B. C. Hirst, 1821 Spruce street, Philadelphia, Pa.

The engagement is announced of Joseph Ennals Muse, M.D., Baltimore Medical College, '98, of Baltimore, and Miss Laura Manuleita Travers of Cambridge, Md.

MARRIAGES.

Nathaniel Burwell, M.D., to Miss Loraine Turner, on October 7, both of Shepherdstown, W. Va.

John Hunter Selby, M.D., of Warrenton, Va., to Miss Delia Slaughter of Plains, Va., on October 6.

DEATHS.

Felix Jenkins, M.D., University of Maryland, '49, at Towson, October 9, 1909.

Joseph L. Snively, M.D., Jefferson Medical College, '77, at his home in Shady Grove, Pa., October 14, aged 58 years.

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COMMITTEE ON DEFECTIVES.

WEDNESDAY AFTERNOON, NOVEMBER 10.

Address—"The Care of the Criminal Insane."
Dr. N. M. Owensby.
Dr. R. Martin Bruns.

Address—"The Occupation of the Insane."
Dr. R. P. Winterode.

Address—"The State Care of the Feeble-Minded."
Dr. S. J. Fort.

Address—"The Education of the Blind."
Miss Winifred Holt,
Secretary Association for the Prevention of Blindness, New York.

WEDNESDAY EVENING.

Address—"The Relation of State Care of the Insane to the Medical Profession and the Community."
Dr. Albert W. Ferris, President New York State Commission in Lunacy.

Address—"The Deplorable Conditions of the Dependent Insane in Maryland. What Is the Remedy?"
Dr. Arthur P. Herring, Secretary State Lunacy Commission.
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Book Reviews.

PARENTHOOD AND RACE CULTURE. An Outline of Eugenics. By Caleb W. Saleeby, M.D. $2 net; by mail, $2.70. New York: Moffat, Yard & Co. 1909.

The first duty of a reviewer is to recognize the good in a publication; the second, to criticise its defects. Concerning the work before us, by a physician of Edinburgh, we might well be content with the former. It is a first-class book in every respect, and the publishers' presentation is fine. The type is large and clear. It is a wise book, and thorough, and reverent, and clean. It deals with a big subject in a large way. It is worth the purchase and the perusal of all our readers.

Modern competition necessitates attention to race culture if we are to survive. It is high time that associations like the British Eugenics Education Society should be formed in America.

In minor points the author is open to criticism. His statement that eugenics is going to save the world is untrue. If the world is to be saved in the sense that a perfect race shall be developed on earth, many agencies besides eugenics must be invoked. It is one thing to tell men what to do and another to make them do it. His opinion that all parasitic, infectious and epidemic disease will be abolished within a century admits of the same objection. His criticism of muscle culture, ending with the words, "Man does not live by brawn alone; he does live by brain alone," is overstrained. His statement that some creatures have specialized their limbs at the cost of certain fingers—as the horse—makes the creature the designer of its own body, and that while its brain was embryonic—an evident absurdity. His endorsement of long engagements as a means of reducing the marriage and birth rates is opposed to the experience of practicing physicians, as involving grave evils to the individual and to society. These, however, are minor defects. The book is very excellent.

THE DISEASES OF CHILDREN. By H. E. Tuley. Baltimore: Southern Medical Publishing Company. Cloth, $5.00. Half leather, $6.00. 1909.

We have seen nothing better for students and general practitioners who wish to have the latest in a brief concise form. It is just the thing for a student, written in good English, all superfluities discarded, yet sufficiently full as not to rob the milk from the cocoanut. The 650 pages are devoted to the ordinary and rare disease of childhood, especial attention being devoted to the chapter on infant feeding. Breast feeding, nursing mother, method of nursing, breast milk, weaning, cow's milk, certified milk, changes in milk produced by bacteria and other microorganisms are all considered with a number of other important questions concerned with the feeding of the babe. Contagious diseases come in for some fifty pages of description. Indeed, every portion of the body receives its proportionate share of consideration, the various subdivisions being excellently handled, and one not being unduly emphasized to the detriment of the other. We take great pleasure in recommending this book to the medical profession, undergraduate and graduate.

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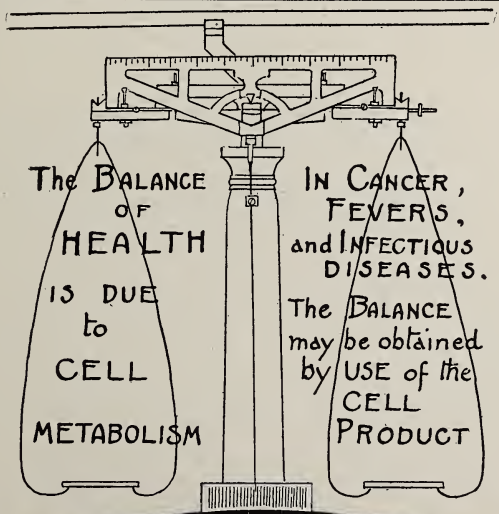
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make-up and presswork, and the author upon the simplicity with which he has handled his subject. A few more illustrations would have added to the value of the volume, and in other editions it is to be hoped that this feature will demand more attention.

Medical Diagnosis. By J. C. Wilson. Cloth bound. Philadelphia: J. B. Lippincott Company. 1909.

The subject-matter of this book is arranged under four general divisions—Medical Diagnosis in General, the Methods and Their Immediate Results, Symptoms and Signs, the Clinical Applications—an admirable and logical procedure. Whilst the number of subjects considered is large, the treatment is so simple, concise and, above all, eminently practical that the general practitioner and student should find it of immense aid as a quick and reliable reference book. All necessary detail is shunned. Considering the enormity of the subject under discussion, the author has produced a gem of brevity and practicability within one binding. It is modern, up to date, well illustrated with 408 sketches and 14 full-page plates—a small encyclopedia upon matters pertaining to medical diagnosis in all its aspects.

Hagee's Cordial of the Extract of Codliver Oil Compound. Katharmon Chemical Co., St. Louis.

A bound pamphlet setting forth the claims to recognition of this preparation, giving a brief sketch of the studies which have been made concerning the extractives of codliver oil, on which its peculiar properties seem largely to depend, and defending their use as therapeutic agents. It is well known, as H. C. Wood confesses, that codliver oil has unique therapeutic effects not due to its oily ingredients, and that these effects are produced by the united activities of its non-oily elements. Any effort, therefore, to extract these elements and offer them to the profession in an agreeable menstruum is certainly praiseworthy. Some pharmacists have sought to extract them directly from the livers; some have used the oil as the point of beginning. Patients like the products and seem to gain strength and respiratory tone from them. There are so many patients who cannot or will not take the oil itself that the practitioner must use such preparations of the extractives as may be within reach without waiting for the analyst and laboratory worker to determine exactly in which of them the virtue resides.

Confessions of a Neurasthenic. By William T. Marrs. Cloth. Philadelphia: F. A. Davis Company. 1909.

"Confessions of a Neurasthenic" is a monograph in which is recorded the experience of the author with this cesspool of ultimate diagnosis in obscure and indefinite cases. Whilst written in the strain of a novel, the main facts are based upon actual observations in a wide and diversified practice. The book is well written, light, humorous and instructive. All phases of neurasthenia are discussed—those of infancy, childhood, the neurasthenic in love, etc. The sketches illustrating the subjects are exceptionally clever.

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Editorial Comment.

COMMERCIALIZED MEDICAL JOURNALISM.

Medical Sentinel.

THERE is a good deal of human nature in physicians, after all. When they start medical journals that are going to reform the profession, and get from beneath the cloud of commercialism that the other medical journals are laboring under, their avowals may well be taken with a grain of salt. It has been the fashion for editors of State journals to aver that they are standing on a higher plane than their neighbors who conduct "privately-owned" journals. Some, even when speaking of their distasteful contemporaries, never neglect to call them "medical (?) journals," apparently believing that they have reached the acme of contemptuous expression when they put that question mark between the two words. Their first editorial columns glitter with expressions of high resolve. Never will their columns have advertising in them about which there can be any question, and they act as did the Pharisee of old who smote on his breast, as he stood erect, and thanked God that he was not as other men.

There are men in the medical profession who would be dishonest grocers if they followed that business; if they were lawyers they would be dishonorable ones. So as physicians they are not honest. Passing through a medical college does not reform them. Some of these men occasionally drift into the editorial chairs of medical journals. They profess great things. They are Pharisees in earnest. They do much smiting of their breasts, and express much thankfulness that they are not as other men.

Excerpts.

"THE PASSING SHOW."

THERE passed across the divide, from the State of Illinois, in the year of 1907, 62,854 persons; of these, 4791 succumbed to actual diseases of the heart. This ranks third on the list of the classified causes of death. The population of the State is given as 5,519,279. For the first time, perhaps, tuberculosis has failed to rank first. Pneumonia has a record of 7386; tuberculosis 7142, and cancer comes in sixth, with 2999 to its credit.

It seems to me that while a great deal has been and is being said with regard to the increase in cases of cancer, little has been noticed with regard to the heart. There is this difference—whereas cancer as a cause of death steadily increases year by year, diseases of the heart, being governed by different conditions, increase in a more erratic manner.

All forms of cancer increase steadily from the twentieth to the seventieth year. The death rate from acute endocarditis increased from birth over the same term of years. Other forms of heart disease follow the same course of increase as cancer, or nearly so.

Excessive physical excerise has become the order of the day, and athletics is a stronger card, in many schools, than mental acquirements. No intelligent thought seems to be expended on the physical ability of growing children to sustain continued effort. Consequently we see daily enfeebled boys and girls whose condition can be easily traced to irrational school life. Surely, then, the education of the educator must be one of our hopes for the betterment of the life of the poor, faithful, uncomplaining heart that leaps to our desires and gallops with our fugitive fancies, adjusting itself to each chimera of our seething brain till the power of adjustment ceases.—*Susan E. Bruce, M.D., Medical Sentinel.*

Reprinted.

LUMBAR PUNCTURE.

G. E. Ebright, San Francisco (*Journal of the American Medical Association,* November 7), says that the dangers of lumbar puncture are, with rare exceptions, due only to surgical uncleanliness. With rigid asepsis they very seldom occur. Transitory symptoms, momentary headache, dizziness, from the effect of altered pressure following the withdrawal of spinal

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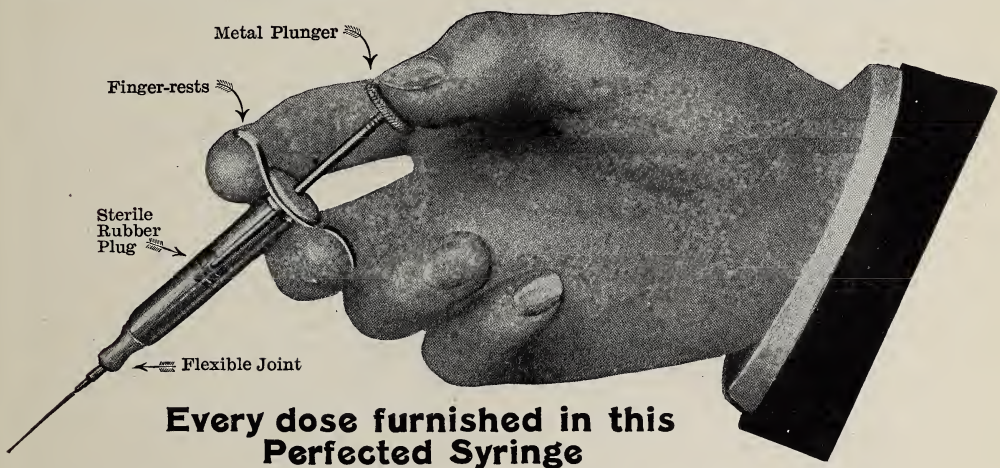

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fluid, are to be guarded against rather than feared. The few deaths that have been reported occurred in patients with brain tumor and in hydrocephalus associated with great pressure. It is his practice to keep the patient, especially if an adult, in bed for 20 hours after withdrawal of fluid. The fluid should be removed very slowly and in such amounts that the pressure shall not approach too nearly the normal at the end of the operation in those cases in which the pressure is very high lest hemorrhage from vasomotor disturbances occur or too sudden hyperemia of the brain. If, after withdrawing 2 or 3 c. c., the pressure does not tend to rise slowly, approaching the initial pressure, occlusion of the foramen of Majendie should be suspected and the greatest caution exercised, especially in cases of brain tumor or hydrocephalus. Under no circumstances should aspiration be employed. If the fluid does not flow, Curschmann advises putting ice to the feet. Ebright has noticed that the use of a needle without a stylet is a frequent cause of disappointment. He also thinks it probable that failure to warm the serum to body temperature before injecting may account for the occasionally observed troublesome pain and parethesias in the lower part of the body. In three cases he has encountered hemorrhages from injury by the needle to the rich network of spinal veins, but no untoward results followed. He describes and figures a modification of the Pfaundler apparatus for estimating the pressure of the spinal fluid in lumbar puncture, which, using a mercury manometer, is better than the ordinary glass tube in giving the initial pressure. In estimating pressure the position of the patient and his age are to be considered. In infants and young children the sitting position is usually easier, and the spinal pressure then varies from 10 mm. to 20 mm. in the former and from 15 to 35 mm. in the older children. Adults are under better control in the horizontal position, which reduces the pressure. The pressure in disease is highest in inflammatory conditions, especially in tuberculous and cerebrospinal meningitis. Excessive pressure may also occur in chronic internal hydrocephalus. Normal or subnormal pressure excludes inflammatory processes unless the heart is weak, but a moderate increase does not exclude the functional neuroses. The macroscopic appearance of the spinal fluid is too often neglected, and Ebright describes the coagula which form in inflammatory conditions. Albumin is present as globulin, normally, in minute quantities, and is not increased in non-inflammatory conditions except paresis and hemorrhage, and it is only in suppurative tuberculous meningitis that it exceeds 0.5 per cent. Cytodiagnosis of the spinal fluid is not definitely established in medical opinion. The polynuclears and lymphocytes are seen to be increased in inflammatory conditions, the latter more usually in the later stages. In 80 per cent. of syphilitic affections of the central nervous system there is a notable increase of lymphocytes in the spinal fluid, and this is true also in tabes and paresis. The importance of bacterial examination is evident. The tubercle bacillus, the meningococcus, the typhoid, diphtheria, influenza and colon bacillus, the pneumococcus and the bacillus pyocyaneous and the pyogenic cocci have all been demonstrated, and, of course, have their significance as regards treatment. The tubercle bacilli may be hard to find before death and easily demonstrated immediately afterwards. As a therapeutic measure lumbar puncture is indicated whenever intraspinal pressure causes symptoms, and several punctures at intervals may be indicated, from 5 to 100 c. c. being withdrawn. It cannot be denied, however, the procedure should be one of last resort. The late brilliant results with Flexner's serum in epidemic cerebrospinal meningitis have, as is well known, revolutionized the treatment of that disease within the last few months. With this exception the injection of remedial agents into the subdural space has not been especially satisfactory, or, at least, as much so as the subcutaneous injection.—*Detroit Medical Journal.*

STUDENT'S OF JOHNS HOPKINS MED. COLLEGE

MARYLAND
MEDICAL JOURNAL

A Journal of Medicine and Surgery

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THE SURGERY OF THE THYROID GLAND.

By Randolph Winslow, M.D., LL.D.,
Professor of Surgery in the University of Maryland.

READ AT THE SEMIANNUAL MEETING OF THE MEDICAL AND CHIRURGICAL FACULTY, BRADDOCK HEIGHTS, MD., SEPTEMBER 16, 1909.

(*Continued from November number.*)

CASE 11.—*Colloid Goitre (Cured).*

I. T.; admitted October 16, 1906; discharged October 28, 1906.

History.—Patient entered hospital on October 16, 1906, complaining of an enlargement of the thyroid gland, especially the right lobe. The patient, a white girl, aged 17 years, first noticed an enlargement of the neck about two years ago. She says at times it is larger than at others, although it has been slowly increasing in size. It has shown no symptoms except the disfigurement, and some shortness of breath when anything tight was placed around her neck.

On October 17 the patient was operated on under a local anesthetic, having the right lobe removed, with drainage for 48 hours. The highest temperature was 100⅘°: the highest pulse 131. A microscopic examination showed that the acini of the glands were filled with colloid material, and there was no evidence of malignancy. Diagnosis: Colloid goitre.

On October 28, 1906, she was discharged cured. The wound healed by first intention, with a very slight scar and no pain or discomfort. Respiration, pulse and temperature normal.

CASE 12.—*Colloid Goitre, with Exophthalmos (Cured).*

Mrs. B. H.; admitted November 9, 1906; discharged November 21, 1906.

History.—Housewife; aged 28; white; came to hospital for relief of trouble about the throat, which has existed for some months. It did not trouble her until about three months ago, when she began to experience symptoms of pressure. She had a choking feeling, worse at some times, and general depressed condition. Thinks she has become more nervous. The pulse rate

is slightly increased. Examination shows woman of healthy appearance, but a noticeable enlargement about throat, a little more exaggerated on right than left side. It extends, however, across to the left and from immediately below mandible to within one and a half inches of the supraclavicular notch and clavicles. To the palpating hand the mass seems cystic; is not painful. It involves the entire thyroid gland. The heart and lungs are negative; some exophthalmos. The patient came to hospital on November 9, 1906; operation on November 12, 1906. After due preparation the patient was brought to operating-room under the influence of scopolamine and morphia. The skin above growth was infiltrated with Schleich's solution, a horseshoe incision (convexity downward) was made about three and a half inches long, the gland exposed and released by careful dissection, vessels clamped and ligated, and all but a small piece of the thyroid gland removed. Cavity dried after drenching with hot normal salt solution, muscles replaced and sewed, fascia drawn over rubber tube extending down to bottom of cavity, and then skin approximated and sewed by use of silkworm gut sutures. Dressings applied and patient removed to ward. Complained of little pain. Pulse and respiration, as well as voice, little affected by the operation.

November 15, 1906. Patient has been dressed, all tubes and tucking removed. Not much drainage. No untoward symptoms. Making normal recovery.

November 16, 1906. She has developed bilateral tonsillitis, causing a rise in temperature and pulse, with usual symptoms.

November 21, 1906. Patient discharged cured, with primary union.

Microscopic Examination.—Section shows most of the alveoli to be filled with colloid material, many of them being very much distended; a few not containing colloid are collapsed from surrounding pressure. No evidence of malignancy. Diagnosis: Colloid goitre.

Highest temperature reached was 103°; highest pulse 125, due to tonsillitis.

July 16, 1909. This patient is entirely well; the incision scarcely visible, but some enlargement of left lobe of thyroid gland has taken place.

Case 13.—*Colloid Goitre (Cured).*

W. G.; admitted November 17, 1906; discharged December 23, 1906.

History.—White; age 17 years; school boy. This patient operated on for a rupture at St. Agnes' Hospital, where he remained three weeks. After resting two weeks at home, he noticed a swelling in his neck. The swelling came on suddenly. A doctor told him to rub it with salve. The swelling then decreased, and it became hard in about a week. There was no other symptom except the lump, which did not interfere with his breathing at all.

November 22, 1906. *Operation.*—Thyroidectomy; anesthetic,

local infiltration with Schleich's solution. Patient was brought to the operating-room and placed on the table in a semi-sitting posture. The neck was scrubbed, shaved and prepared for an aseptic operation. Schleich's solution was then injected subcutaneously. A curved incision about three inches long was made along the lower margin of the gland down to the cervical fascia, the skin being dissected upward. The fascia, which was found to be exceptionally thick, was opened longitudinally. After this was done the muscles were separated in the median line, and the sterno-hyoid and the sterno-thyroid muscles cut on the right side and thrown over. The gland was then revealed, enclosed in its own capsule, and found to be uniformly hypertrophied, about the size of a turkey's egg and divided into its two lobes. The gland was then grasped with thyroid clamps, the superior thyroid vessels were clamped, cut and tied with silk. The upper pole was then dissected out, a small part being left in purposely. Now the inferior thyroid vessels were clamped, cut and tied and the lower pole separated. The gland was firmly adherent to the anterior wall of the trachea and had to be dissected away very carefully. The vessels were clamped and tied with silk; the wound was then washed out with normal salt solution to get rid of any thyroid secretion which might have escaped; the muscles were sutured with catgut, as was also the cervical fascia, leaving a small opening in the lower part of the incision for inserting a small rubber drain. The skin was closed with catgut, leaving a small opening in the middle of the incision for the tube. The patient stood the operation well; was asked questions repeatedly during the operation and was able to reply audibly. Morphia and scopolamine were used, and the patient did not complain of any pain, except a little in his bones.

The patient's wound was first dressed on November 24. There was slight redness around the area of the incision, and quite a quantity of a bloody and serous exudate on the dressings. The tube was removed, and not reinserted. The pulse and temperature have been slightly elevated since the operation. He contracted tonsillitis on November 27, and his temperature ran very high for several days, but soon came to normal under the salicylates.

December 23, 1906. The patient's neck has entirely healed. His pulse has come down to normal; the respiration and temperature are also normal. Appetite good; general condition excellent. Discharged cured.

CASE 14.—*Exophthalmic Goitre (Recovered).*

Mrs. D. G.; admitted January 15, 1907; discharged February 27, 1907.

History.—March 2, 1906, the patient was operated on at the Johns Hopkins Hospital. Local anesthesia was used—morphia and cocaine. The right lobe and the isthmus were incised, with probably the parathyroids of that side. This operation was followed by acute thyroidism and at least a partial paralysis of the

right vocal cord. Serum was made from her own gland by Bebe's and Rogers' method. The patient left the hospital July 18 improved, and with instructions to come back occasionally to see how the serum was acting. October 1 was her last visit, and her improvement was very marked. There was a rapid recurrence of both the goitre and the symptoms, and the patient entered the University Hospital for operation on January 15, 1907. At this time the patient was a fairly well-developed girl, 21 years old, who had been married two years. Her voice is husky, hand very tremulous, and her face and arm twitch. Her eyes are very prominent and move considerably. Her heart is very rapid, but no valvular lesions can be made out. She has a hoarse cough, which gives her considerable trouble.

January 24, 1907. *Operation.*—Previous to being taken to the operating-room the patient was given two hypodermic injections of the scopolamine preparation. She was put on the table, and the part to be operated on cleansed and prepared in the usual aseptic manner. One-quarter per cent. cocaine solution was injected under the skin in a line which was to mark the place of incision. The integument and platysma were now incised, the line of cleavage extending from about 4 cm. to the right of the median line across to the left side, where it was carried upward and outward about 8 cm. The concave flap was then turned upward, exposing the site of the new growth. The larger vessels were tied off with catgut from time to time. The tissue to be removed was firmly clamped with strong compression clamps and cut away. The cut surface of the remaining gland was firmly ligated with heavy white silk, and the clamps removed. The wound was irrigated with normal salt solution, a rubber tube inserted for drainage, and the skin brought together with interrupted and continuous catgut sutures. The patient was very nervous during the entire operation, the scopolamine apparently not acting as satisfactorily as usual. The pulse was not seriously affected during the operation. The portion of the left lobe removed was about the size of a hen's egg.

January 30, 1907. After the operation, which was performed under scopolamine, morphia and cocaine with much difficulty, as the patient seemed to suffer very much, her condition has been good, save for a rather high temperature and pulse rate. The highest temperature was 102⅗° and the highest pulse rate 155. Both gradually fell. The patient's eye symptoms are much lessened, and she is much more comfortable. The wound still drains considerably, but the tube was taken out today.

February 1, 1907. Since last dressed the patient has rapidly improved. There is no twitching of muscles, except the eyes, which are not so prominent (there is no defective vision). There is slight drainage, but her temperature is normal and the pulse rate is almost normal. Her general condition is much improved, and she is gaining flesh and strength.

February 19, 1907. The patient was discharged today, much improved.

CASE 15.—*Large, Hard Goitre, Fibro-adenoma (Recovered).*

Mrs. B. M.; admitted May 17, 1907; discharged June 13, 1907. Referred to me by Dr. Gichner.

History.—The patient is a white woman, married and 52 years of age, who entered the hospital complaining of a growth in the neck of 12 years' duration. It started as a small lump on the right side of the trachea and grew gradually, giving her some discomfort in breathing and talking. The lump is an enlargement of the thyroid gland, about the size of an orange, densely hard and only slightly movable, and not painful. The large vessels are pushed back behind the sterno-mastoid muscles and the trachea is pushed far to the left of the median line. There is no protrusion of the eyeballs or tremor or nervous symptoms. The pulse rate is slow. Her general condition is good. She has eruptions over her entire body—macular, red, and fading on pressure apparently.

Operation.—May 21, 1907. Previous to being brought to the operating-room the patient was given morphia and scopolamine in divided doses, ¼ gr. of the former and 1-150 gr. of the latter. After placing the patient on the operating table the field of operation was scrubbed and rendered aseptic, and the line of incision was infiltrated with Schleich's solution. The patient was placed in a semi-sitting posture. A transverse incision was made across the growth about three inches long. The right lobe of the gland, being about the size of a goose egg, was removed after clamping and ligating the superior and inferior thyroid arteries and veins and dividing them. The growth was shelled out of its capsule and divided at the isthmus, leaving the left lobe. All bleeding points were ligated with silk, and any oozing was stopped by whipping over the bleeding surface with a continuous silk suture and bathing the wound with a hot salt solution. A drain of small rubber tubing was placed into the lower part of the wound and the incision closed.

The patient was asphyxiated two or three times during the operation from the pressure of the growth on the trachea preventing the entrance of air. But after the growth was removed she breathed freely and soon regained a pink color. She was removed to her room in a good condition, and placed in bed in an almost sitting posture. The day following the operation the drainage tube was removed, and she was allowed to sit up in bed. She has no trouble with respiration, but cannot talk above a whisper. There is no elevation of temperature, but a congestion of the mucous membrane, which was relieved by inhaling steam (benzoin and opium). The patient is rather nervous, but her general condition is good.

One week following the operation: The patient is still rapidly improving. The suture is removed, the wound having healed by first intention. There is considerable discharge from the drain

incision, and when irrigated some sloughs are washed out. The patient is up in a chair, still has a defect in voice, but no interference with breathing. She sleeps well, and has no cough or other trouble experienced before the operation. Her neck is down to its normal size, and practically no scar can be noticed.

June 13, 1907. The patient was discharged in good condition, with no embarrassment of respiration. A microscopical examination showed no signs of malignancy.

Diagnosis.—Fibro-adenoma of thyroid.

This was a most interesting case. It was by far the most difficult case to operate on that I have ever undertaken. She almost died on the table from asphyxiation, and was only saved by rapidly tearing the growth away from the trachea and thereby releasing the pressure. After she returned to her home she developed difficulty in respiration, and a tracheotomy was done to permit air to enter her windpipe. Her condition failing to improve, she returned to Baltimore and entered the Hebrew Hospital, where Dr. Lee Cohen found a complete stenosis of her larynx, as well as an outgrowth of the trachea near the bifurcation. With much difficulty he removed these neoplastic structures, which were found to consist of thyroid tissue. The remnants of the right lobe also became developed into a tumor as dense and hard as the original growth. About this time new growths occurred on the head and in other parts of the body, which were reported by the pathologist to be adenomata. A decided paresis also set in, giving the impression that metastases had taken place in the spinal cord. Clinically the condition was malignant, microscopically benign.

CASE 16.—*Fibro-adenoma of the Thyroid Gland (Cured).*

L. D.; admitted May 29, 1907; discharged June 22, 1907.

History.—The patient is a seamstress, white, and 38 years of age, who entered the hospital on the 29th of May, complaining of nervousness and indigestion. Everything that she eats makes her sick; she belches gas and sour material, and also has pain in the small of the back, general weakness, headache and shortness of breath. Pulse 80 per minute; tension and force poor; rhythm good. The patient, who is very neurotic, was referred from the medical side, with a rapidly growing lump in the neck, not painful or giving any signs of inflammation, and apparently attached to the thyroid gland. There is no evidence of exophthalmos. The growth is of about one month's duration, rather soft and elastic on palpation, and about the size of a walnut.

June 14, 1907. *Operation.*—The patient was prepared for operation with ordinary aseptic precautions. As the time appointed for the operation approached she became very nervous; hence it was necessary to give a general anesthetic. She took the ether well and did not struggle. The incision was the usual transverse cut across the neck. The integument, superficial cervical fascia, platysma myoides and the deep cervical fascia were divided in succession. The muscles on the front of the neck were pulled

apart and the thyroid gland exposed. A cystic tumor was found, which peeled out beautifully. Following the removal of the tumor the fasciæ were reunited with silk and the skin brought together with a subcutaneous silver-wire suture. The recovery from the anesthetic was rapid and uneventful. The patient made an uneventful recovery. The sutures were removed on the sixth day following the operation. The wound was entirely healed. The patient was discharged June 22, 1907, cured of the lump in her neck, but still very nervous.

Pathological Report.—Section shows an increase in glandular structure, also an increase in the connective tissue between the glands.

Diagnosis. — Fibro-adenoma of thyroid gland. The highest point reached by the temperature was 99⅗°; the highest pulse rate after the operation was 100.

CASE 17.—*Parenchymatous Goitre (Cured).*

J. V.; admitted July 7, 1907; discharged July 29, 1907.

History.—Farm hand; age 20 years. The patient came to the accident ward to be treated for a bullet wound in the neck. The patient is a rather well-developed colored man, who has an enlargement of the neck below the hyoid bone. It is not exactly symmetrical, being larger on the right side. This moves when the patient swallows, and feels somewhat cystic. It was diagnosed as an enlarged thyroid gland.

July 15, 1907. *Operation.*—Scopolamine and morphia were used as an anesthetic, with cocaine locally. After the usual aseptic preparation a transverse incision, about three inches long, was made across the swelling, the skin and platysma and deep fascia divided, and the bleeding vessels clamped; the sterno-mastoid muscle was drawn aside, and the sterno-hyoid and the sterno-thyroid muscles divided. The capsule of the large goitre was divided and stripped off, and the vessels clamped. The finger was passed around the gland, detaching it. The tumor was then drawn forward and its vessels ligated. The isthmus was ligated and then cut, the posterior border being still attached to the trachea, and the tumor was removed, leaving sufficient of the gland to carry on its function. During the operation the patient was very troublesome and was restrained with difficulty. The clamped vessels were ligated with silk. The incision was closed with a continuous suture, and a small incision made below it for a small rubber drain. The patient was dressed, bandaged and returned to his bed and sat up. He was not much affected by the operation.

The drainage tube was removed on the second day, and the incision healed *per primam.* The highest temperature was 101° and the greatest pulse rate 126, each rapidly falling to normal.

CASE 18.—*Simple Unilateral Goitre, Right Side (Cured).*

Mrs. E. R.; entered August 13, 1907; discharged August 26, 1907.

The patient entered the hospital August 13, 1907; a white Ger-

man woman, 60 years old. August 18, 1907, a large, right unilateral, enlarged thyroid growth was removed without general anesthesia. Scopolamine and morphia hypodermically and cocaine locally were used. The patient was discharged August 26, 1907, cured. The highest point reached by the temperature was 101°; the highest pulse rate was 105. Both of these quickly fell to normal, however. This woman had had this goitre for several years, and it had become so large that she could not bend her neck; it also caused some difficulty in respiration. She was able to sit up out of bed the day after the operation, and had no subsequent trouble. A physician had treated her for many months by giving medicine to cause the tumor to be absorbed—needless to say without any beneficial result.

CASE 19.—*Parenchymatous or Colloid Goitre (Cured).*

Mrs. W. R. V.; white; aged 34 years; admitted September 20, 1907; discharged September 28, 1907.

History.—The patient entered the hospital to have a tumor removed from her neck. For the past three years she has noticed the enlargement on the right side of her neck just below the thyroid cartilage. This enlargement began to increase in size about three months ago, and for the past month has been growing very rapidly. The patient has no protrusion of the eyes, but she has been nervous and irritable for the past six weeks. She has had some pain, extending up around the ear on the right side, and has also had at times a sense of pressure on the trachea and a husky voice.

Operation.—September 21, 1907. Morphia and scopolamine anesthesia, with cocaine injected into the skin. An incision three inches long was made extending across the thyroid gland in a horizontal direction, passing through the skin, subcutaneous tissue and platysma myoides. The other muscles were pulled aside, and all of the right and part of the left lobe of the thyroid gland removed. The vessels were ligated with silk; the platysma myoides sutured with a continuous suture. An incision one-half inch in length was made one inch below the other incision and a small rubber tube inserted. The skin was closed with subcutaneous silver-wire sutures. The tube was removed on the second day. There was quite a reaction after the operation, during which time the patient did not feel very uncomfortable. She was quite nauseated after coming from the operating-room. There was a marked improvement on the third day following the operation. The highest temperature was 103⅕°, and it ran high for several days. The pulse rate was also high, reaching 140, but it also gradually fell. The wound closed nicely, healing by first intention, but subsequently at her home suppuration occurred, and pus continued to escape until all the sutures and ligatures were thrown off. She eventually made an excellent recovery, with an almost invisible scar.

(To be continued.)

SOME UNUSUAL CASES OF DISEASE OF THE SALIVARY APPARATUS.

By John R. Winslow, B.A., M.D.,

Clinical Professor of Diseases of Nose and Throat in the University of Maryland.

READ BEFORE THE SECTION ON LARYNGOLOGY AND RHINOLOGY OF THE MEDICAL AND CHIRURGICAL FACULTY FRIDAY, OCTOBER 29TH, 1909.

THE diseases of the buccal cavity and its appendages have not received the attention from laryngologists that they deserve, but we have been content to relegate them to the general practitioner, the gastroenterologist and the dentist. Yet many of these conditions are important to us not only in themselves, but also in their relation to the other regions which we treat. Among such the diseases of the salivary ducts and glands are prominent, those commonly associated with these organs being inflammations, cysts and tumors, fistulæ and calculi.

Salivary calculus is regarded as a rare condition, and occurs more often in the ducts than in the glands themselves. The most common site is the submaxillary duct (Wharton's) and gland, next the parotid duct (Steno's) and gland, and, lastly, the sublingual duct and gland.

The form of the calculus depends upon its situation, being fusiform or cylindrical in the ducts and irregular or round in the gland.

In size, calculi of the ducts vary from that of a millet seed to an olive stone. The cause of these concretions is undoubtedly an infectious process, as of those occurring elsewhere.

While in some cases the calculus may remain in the duct or gland for years without symptoms, in other cases annoying symptoms may persist for a considerable time without recognition of their true cause. The most characteristic symptom is the intermittent appearance of a tumor, from salivary stasis, in the neighborhood of the gland whose duct is involved, as, for example, around the ear with Steno's duct, on the floor of the mouth close to the ramus of the jaw with Wharton's duct, and under the tip of the tongue close to the frenum when the sublingual ducts are involved. These attacks are accompanied by severe pain, termed by the French salivary colic. At times the duct becomes inflamed or infected, or the calculus may ulcerate through it and migrate to unusual locations (base of tongue, neck, etc.).

Diagnosis depends upon palpation of the stone with the finger or a probe. In early or obscure cases this may be indeterminate, yet the characteristic attacks point to the existence of a stone. In such cases, and also when the stone is in the gland itself, the X-ray proves of service.

Treatment consists in removal of the stone, which generally

necessitates slitting open the duct. When the stone is large it may have to be crushed before extraction.

Should a stricture of the duct be present we should resort to subsequent dilation with graduated bougies.

All of these maneuvers can be carried out through the mouth without disfigurement, and come within the domain of the laryngologist. In certain cases, as shown by R. C. Myles, even when the stone is located in the gland itself we can reach it by forcibly dilating the duct with small-branched dilators.

Aside from a number of cases of cyst and ranula, my personal experience is comprised in the following case histories:

W. D. B., a young man, 20 years and six months old, consulted me December 17, 1908, for the relief of a chronic ethmoiditis, and incidentally gave the history that he suffered from an occasional swelling and soreness beneath the tip of the tongue, on the left side, especially after swallowing sour food or drink. I examined the floor of the mouth by inspection and palpation, but could determine nothing.

On October 6, 1909, the patient returned, presenting a painless swelling at the angle of the left lower jaw and a swelling along the floor of the mouth beneath the tongue. Palpation revealed no calculus, and a very fine probe was passed through the duct into the submaxillary gland.

Ten days later the patient returned with the statement that he felt a movable lump at the tip of the tongue. With a pair of forceps I was able to strip a small object to the orifice of the duct and clamp it in position. The duct was then laid open for half an inch and a fusiform calculus measuring three-sixteenths by one-sixteenth inch removed. This was succeeded by dilation with probes every two days, when the swelling of the gland subsided in a week. This was assisted by external massage with 10 per cent. iodine petrogen.

Mrs. J. C. C., aged 51 years, consulted me October 27, 1909, complaining of a lump under the left ear, in front of the ramus of the jaw, of three days' duration, which was painful on pressure and attended with neuralgic pains over face. She had had a similar attack three weeks previously following mumps, which were prevalent in the neighborhood. This disappeared spontaneously, and she noticed at the time a "salty, sweetish" taste. The return of trouble she attributed to a cold.

Upon examination I found a dull red swelling of the parotid gland, indurated in the main, but boggy in spots, not very sensitive on pressure.

On inspection a drop of pus was seen at the orifice of Steno's duct, and on stripping forward from the gland along the duct about two drams were evacuated. Hot applications were ordered, and on the following day a smaller quantity of pus was milked from the gland. The swelling and bogginess had materially di-

minished, and the patient returned home to her family physician for a continuation of the treatment.

Some years ago I saw the following case, which I published in the *Journal of Eye, Ear and Throat Diseases* October, 1896:

A young colored man, aged 30 years, presented a lump the size of a hen's egg directly over his Adam's apple. This was penetrated by several fistulæ, from which pus exuded. Through these the probe detected a hard substance, which was removed by incision, and proved to be a salivary calculus. This was cylindrical in shape, and curved upon itself in the form of a crescent.

It was then learned that a number of months previously the patient had noticed a hard lump beneath the tongue which had disappeared spontaneously. This was succeeded by the abscess in the neck. There had evidently been a sublingual or submaxillary salivary calculus, which had ulcerated through the duct and migrated downward through the tissues of the neck to the larynx. Healing by packing.

In conclusion, permit me to emphasize the propriety and desirability of including these and other buccal conditions within the sphere of our special treatment.

114 West Franklin street.

SANITARY SUPERVISION AN AID TO COMMERCIALISM.

By Harold B. Wood, M.D.,

Philadelphia.

THERE is a side to commercialism which calls for medical protection. It is the influence upon the health of a community exerted by a business enterprise which is demanding supervision if it is the intention for that enterprise to continue and to flourish. Be that enterprise a hotel or a store, the building of a highway or the running of a machinery system, a mining venture or a transportation operation, the preserving of condiments or the handling of foodstuffs—practically in every business operation there is a more or less influence upon the lives of the patrons or employés. The public is demanding that it be protected, as it has a right to do. The interest displayed has in the past been well shown in certain well-formulated laws and in those advances which signify progress in civilization.

But only the more evident influences have been scrutinized and needed reforms instituted. There remain many factors which have been permitted to assail their dangers upon the public; yet

these do not remain unnoticed by the public press. The lethargic medical profession, upon whose shoulders falls the responsibility for correcting hygienic evils, has not been energetically alive to use its influence.

A physician when asked to name for a convalescent or a vacationist a suitable place to visit is too inclined to include in the itinerary those towns or hotels which are most advertised. It is similar to the old methods of some men of prescribing the most-vaunted nostrums—a detriment to their patients and a reproach to their own reputation and knowledge. Physicians should know the power of what they prescribe, whether it be a drug or a resort.

Because a town has a high elevation is no criterion that it is safe for a tuberculous subject; the use of a hotel by tourists is no proof of its safety; the advertising of a school as being well equipped with gymnastic appliances does not necessarily make that school the best place for the children. No more than at a hotel in the country are good, fresh vegetables necessarily served, or at the seashore resort can the patrons always expect to get plenty of fresh fish. In a dusty factory, showing in itself no mortality because of the frequent changing of employés, it cannot be declared that therein is not obtained a fertile soil for tuberculosis. It is the freedom from dangers which makes these places desirable. This safety can best be obtained by placing the localities where health and life are at stake under careful sanitary inspection.

If cities or resorts of any kinds expect the patronage of influential bodies of men, they must become worthy of that respect. Physicians, knowing the dangers incident to resorts in general, are commencing to demand a knowledge of the health conditions of a resort before entrusting their patients to its clutches. Those resorts which are protectors of lives will soon become known and trusted.

One reason accounting for the lack of sanitary control of these places is the scarcity of physicians who are willing to devote their energies to preventive medicine. Sanitary science is the one branch of medicine which is suffering from lack of recruits. Practically all sanitarians at the present time are governmental employes or holding State or municipal offices, are limited in their influence by controlling laws, or through certain affiliations with colleges cannot devote time to outside professional work. In many cases it is not discrete, just or possible to obtain their advice, nor is it possible nor right to use to commercial advantage their decisions. Sanitarians under municipal appointment should be permitted to perform outside services, provided the welfare of a community is held as of more importance than the convenience of an individual, and provided any decisions are not given as official, but as personal opinion and service. There is a splendid opportunity for consultant sanitarians which the general public is

beginning to appreciate. The lack of attention by the profession to the subject of preventive medicine is distinctly revealed by the preponderance of curative subjects over preventive measures reported in medical magazines and societies.

Individual health resorts are not the only menace to the seeker after health, but the hygienic conditions in many towns are appalling. If the truth were known, many of these places would be pronounced as anything but health resorts, yet people are directed to them with the expectation of their gaining health and strength. One well-known Western city, accepted by many uninformed physicians as being a health resort, derives its water supply from wells sunk but six feet below the surface, while the sewage of the town flows along the gutters in the streets, percolating slowly until it contaminates the entire soil which furnishes the water to the townspeople. A continuance of such action is very apt to soon wreck the city by an epidemic. Cities under such conditions should recognize the danger and avert the oncoming damage. Especially cities like Niagara Falls, with an excessively high typhoid mortality rate, when depending largely for their lives upon tourists, should recognize that they cannot afford to take the risk of damaging their reputation.

It is the apparently trifling influence which counts so much in the prosperity of a location. A typhoid carrier or a diphtheria carrier is much more to be dreaded than one of these cases who is seriously ill, just as a careless consumptive than one who, though more ill, prevents transmission to others. The typhoid carrier need usually be considered no great danger if there be used effective means to prevent transmission.

If a typhoid carrier be admitted unknowingly to a hotel, the public are at the mercy of the authorities in charge. It is not now possible to apprehend all bacilli carriers of various contagions and to quarantine them, but a much more reasonable, cheap and just plan to prevent their infectiousness can usually be adopted. A hotel admitting a carrier need never necessarily jeopardize its patrons. If that hotel protects its water and food supplies, safely disposes of its sewage and does its utmost to check insect transmission, the danger can be considered as *nil*. To establish their protection is a duty and a great commercial advantage, requiring but an occasional inspection by a competent sanitarian, coupled with a slight expenditure. Should a hotel, after receiving advice from a sanitarian, neglect to make repairs or alterations as instructed, it is apt to suffer as did one prosperous hotel. This resort, adopting the policy of refusing advice, suffered from a typhoid epidemic within a few weeks of the sanitary inspection. A broken drain within six feet of the well permitted the cesspool to drain directly into the well. The sudden appearance of 14 cases of typhoid fever, with 8 fatalities, was the cause of a rapid commercial decline, abandonment and later removal of the hotel.

At another hotel at a popular resort no sanitary inspection was made. It was later discovered that a broken drain within a few feet of the well was the indirect cause of 30 cases of typhoid fever among the patrons and servants.

In a perusal of many advertisements of resorts and schools it was noticed that not one mentioned having a sanitary supervision maintained. A small percentage mentions that there is a "healthful location." That such expressions are more misleading than instructive is shown by the fact that one high-class, expensive school advertises as having a "location high and dry." The instructor in chemistry of this school told the writer that his laboratory was so damp that it was frequently necessary to close it. The instructor himself contracted chronic rheumatism. A sectarian school, accepted by many as perfectly safe and health-giving, discharges its untreated sewage among growing strawberries, celery and cabbages. A severe epidemic is not difficult to predict. Such schools come under the category of dangerous resorts and are an actual menace. They cannot afford to be negligent of those who depend upon them for health, life and example.

A large percentage of the cases of typhoid fever in cities are imported. These patients, infected before they return from their summer vacations, constitute a great factor in the establishment of the high autumnal death rate. Cities should publish correct returns of their morbidity and mortality cases, using what power at their command, both educational and legal, to improve the causative factors within and without their borders.

Besides the giving of individual advice upon hygienic subjects, there is need for more wholesale public instruction, as through popular lectures and traveling exhibits. The lectures and demonstrations now being given in various localities should be extended and also broadened to include more subjects than just tuberculosis and the care of babies. Instruction is needed upon water, milk, other foods, insects, etc., showing their relation to health and economy. Individual communities shown the value of such instruction should be willing to assist meeting the expense. All lectures should contain illustrations, for by them the practical import is made more impressive.

The remedying of the unhygienic conditions is comparatively simple, although not easy. The facts should be made known. The sanitary conditions of the safe places should be published, and such commendable places should receive support. It is best not to publish much about the dangerous places, because the profession does not desire to antagonize, but to teach by example. Those resorts, schools or other advertising localities which are under sanitary supervision should state this fact reliably in their notices. Misbranded notices should be forcibly condemned and blacklisted.

Physicians of any city, if they desire visiting tourists, or even

interstate recognition as having a healthful city, after having necessary inspections made by sanitarians, should properly inform, through the medical press or societies, the other physicians who may have an opportunity to assist. Physicians are being asked more and more to name cities or hotels to be visited or schools to be attended, just as they are asked to recommend apothecaries, dairies or other food stores. Those places known to be safe will be favored, as they should be. By example the degratory places, learning the value of protecting the lives of their dependents and patrons, and instituting such hygienic measures that will improve conditions, will profit thereby in honor, in reputation and in commercialism.

VAN HELMONT, DES CARTES, SYLVIUS, BORELLI.

(1577-1679 A. D.)

NINTH OF A SERIES OF ESSAYS ON THE HISTORY OF MEDICINE FROM THE EARLIEST TIMES.

By H. M. Cohen, M.D.

Chapter IX.

In glancing over the history of the medical art we have, thus far, noted that its study was merely one of numerous branches of knowledge a learned man included in his *repertoire*. No man's education was considered complete unless he was master of a great collection of sciences and arts, and he who made any pretense at philosophy took up the study of medicine as a necessary *addendum* to his equipment. Thus we find that, usually, this branch was merely coincidental, and, consequently, it lagged along, for many centuries, a crude and undeveloped science.

In modern times medicine has undergone so great and vast a development that it has become necessary for its disciples to divide it up into numerous branches in order that it may be possible for one man to grasp even a portion of its wisdom.

But to the ancients and medievals all sciences combined appeared none too great to grasp, and it is no doubt due to this fact, principally, that no one of them received the attention the subject demanded. They were evidently not of the opinion expressed in later years by Gregory, who declared that "Of the fruit of medical knowledge it is very easy to get a mouthful and very difficult to get a bellyful."

Thus, medicine remained at a low standard until such time when

more attention was paid to its study and when it was relieved of its pseudo allies.

When the profession began to realize that astrology, theology, philosophy, alchemy and magic were as so many dead branches to the medical tree proper, and when, later, they had the courage to cut them off bodily, we find that, as a result of the consequential concentration of study and research, the hitherto dense atmosphere took up a much clearer consistency.

Although Paracelsus, in his characteristically brusque manner, led the way, Lord Bacon, by pointing out the necessity for concentrated effort all along the line, also gave a decided stimulus to this process of enucleation.

To him, perhaps, rather than to anyone else, belongs the credit of directing attention to the necessity of original research, which finds its latest development in the work of the modern laboratory.

Although not a physician, his great learning enabled him to see the existing lack of co-ordination in medicine, and he pointed out the uselessness of an art which showed no positive results.

Where was the use of all the learning of the physician, if his patients were not cured? Rather know less of the stars and philosophy, and more of the actual cause and cure of disease. So he called attention to the necessity of finding specifics for diseases; and, if this were not possible without great effort, then to concentrate all the energy of the medical body toward that end; so that, ultimately, the labor might be crowned with at least partial success.

But the age of concentration was just now beginning, and men were commencing to realize that the sciences were as broad as the world itself, and to master any one of them was alone a gigantic task. So, instead of trying to fathom many great mysteries, searchers after the truth confined themselves more and more to one branch. Harvey was enabled to complete his great discovery because he devoted all his energies chiefly to anatomy and physiology.

Implicit respect for the authorities, that bugbear of progress, was also beginning to weaken. Paracelsus, with all his uncouthness, had yet many good innovations to his credit; and Van Helmont, who followed closely upon the latter's theories, left the profession enriched as a result of his audacity in striking out along new lines. He differed with the prevailing teaching on bloodletting, and he also differed strongly from the tenets of Galen. He strongly and somewhat successfully opposed the ceaseless letting of blood, so universally resorted to by his contemporaries, although his influence was not sufficiently great to make the reform lasting.

He was born in 1577 at Brussels, of noble and wealthy parents, and was educated by Martin del Reo, a celebrated Jesuit teacher. He later took up the study of mysticism; but, not being content with things so intangible, he entered upon a course in medicine,

first, however, turning over his vast fortune to his sister, since his great wealth and position proved obstacles in his way to prosecuting a medical career.

His religious training manifested itself in his medical teaching at an early date; but his faith in Galen weakened when, having become attacked by scabies, he found the ancient physician's treatment quite unavailing.

This led him to work out a new medical system of his own creation.

In Van Helmont's work we find the first mention of the word "*gas;*" and it has been claimed for him that he originated that term.

In his doctrines that Paracelsianism *archaeus* plays a most prominent part. It is the first great cause of everything. This *archaeus,* by its fermentative action on fluid, is responsible for the growth and nourishment of the body. Digestion is due to its action, which produces an acid in the stomach, and which starts the digestive process by dissolving the food. Next, the acid is neutralized by the bile from the gall-bladder. *Archaeus* appears everywhere, and Van Helmont carries the process of digestion and nutrition along with it, through various stages, using new terms with an abandon second only to Paracelsus himself.

He gave a decided impetus to chemical medicine, although several generations were to pass before it was to be reduced to anything like accuracy or reliability. His teaching in this respect was vigorously opposed by many confreres, and in 1615 the Royal College of Physicians of Paris decreed that "Chemical medicines were condemned and interdicted from all pharmacopeias, and all judges were implored to inflict severe chastisement on all who prescribed, administered and exhibited those poisonous medicines."

Van Helmont's greatest work consisted in pointing out the fallacy of much of the ancient teaching. By destroying the old structure he made it possible, indeed necessary, for a new one to be erected. In this lies his great benefaction to mankind. He died in the sixty-seventh year of his age, in 1644, leaving all his manuscripts to his son, who was responsible for their being later published.

The life of Des Cartes may similarly be disposed of. He, like Van Helmont, played an important part in destroying ancient fallacies; but he contributed little of permanent value to medicine. He was more of a philosopher and mathematician than a physician; and, as he was the first to apply algebra to geometry, he may be regarded as one of the greatest mathematicians in history.

He was born in Brittany in 1596, saw much service as a military surgeon, left France to live in Holland in order to enjoy the greater liberty of that country, and finally took up his residence in Sweden, at the invitation of Queen Christina, where he died in

1650. He was among the first to recognize Harvey's great discovery.

Had he brought into play all his marvelous faculties for the advancement of medicine, the medical world would have indeed owed to him a great debt; but other sciences attracted him more, to the great loss of the healing art. Upon his tomb was inscribed his celebrated expression—"I think; therefore I am"—which in quite recent years was extended and modified by the late Robert Ingersoll, who put it: "All that I know is that once *I was,* and now, *I am;* and that, some time, *I will not be.*"

As a result of the combined teaching of Van Helmont and Des Cartes were evolved the doctrines of Sylvius de la Boe, who founded the Iatro-Chemical School. He belonged to the adherents of chemical medicine, and used the much-discussed antimony with a lavishness that made his followers equally as dangerous to their patients as the "blood-letters." He added to Van Helmont's acid theory of stomach digestion an alkali factor, and taught that these together caused the fermentation which produced nearly all vital action.

He was born in 1614, of French parentage, although he later became Dutch by adoption. In 1658 he took over the chair of medicine at Leydon, introducing the now common clinical instruction. He was, perhaps, the most popular teacher of his age, and his students rapidly spread his doctrine broadcast. He died in 1672.

The teaching of Sylvius spread over most of Europe, and in England was taken up, with some modifications, by Thomas Willis (1622-75), the great anatomist.

As contradistinguished from the Iatro-Chemical School of Sylvius, Borelli of Naples (1608-79) established what has been called the "Iatro-Physical" school. According to its doctrines, all functions were to be explained by mechanical reasons. The school marked an epoch in physiology.

THAYER and Brush examined months and years after their infection 189 individuals who had passed through typhoid under their observation. It was found that among these individuals the radial artery was palpable in a surprisingly large proportion of cases as compared with control observations on healthy men and women who had never had typhoid.—*Long Island Medical Journal.*

ALCOHOL has been universally accepted as one of the principal factors in the causation of arteriosclerosis, but, according to Cabot, erroneously, as he has figures which tend to disprove that idea.—*Long Island Medical Journal.*

WHY DOES OPHTHALMIA NEONATORU CONTINUE TO CAUSE SO MUCH BLINDNESS?

By James J. Carroll, A.M., M.D.,
Baltimore.

PAPER READ AT THE SEMIANNUAL MEETING OF THE MEDICAL AND CHIRURGICAL FACULTY OF MARYLAND, SEPTEMBER 16, 1909.

STRANGE as it may seem, it is nevertheless true that we oft-times allow ourselves to relapse into a state of apathy toward some of the most apparent and at the same time most destructive evils of the day. A condition of the mind akin to this appears to prevail today among the laity, and in some quarters among physicians, in regard to the extent of blindness due to ophthalmia neonatorum. Statistics are certainly not wanting to show the large number of individuals who lose their sight from infantile ophthalmia. From 25 to 45 per cent. of the inmates of the blind institutions are there as the result of this disease. Reinhard collected figures from blind asylums of Germany, Austria, Denmark and Holland, and found that 40 per cent. of the inmates were blinded by ophthalmia neonatorum. Magnus in 1883 found 38 per cent. in children under 10 years of age. Stieler's figures from 1876 to 1895 showed an average of 40 per cent. in the Munich asylums for the blind. According to Salzer,[1] 43 per cent. of the pupils in the Bavarian schools for the blind in 1900 were ophthalmia blind. In 1901 Cohn's carefully prepared statistics showed the ophthalmia blind in 32 institutions in Germany to be 31 per cent., in Austria 27 per cent., and in Switzerland 27 per cent. Claisse found a percentage of 46 per cent. in the Paris asylums. Harman[2] writes in his recent book on "Preventable Blindness" that 36.3 per cent. of the pupils in the schools for the blind in London lost their sight from ophthalmia neonatorum, and that of every 2000 children born in that city one is blinded or partially blinded by that disease. Snell found among 333 inmates of the Sheffield School for the Blind 41.1 per cent. blind from ophthalmia neonatorum. And the Henshaw School for the Blind, also in England, had in 1908 45 per cent. While the scourge of infantile ophthalmia may not be quite so bad in the United States as in Europe, figures, however, from our institutions show that the evil with us is only very slightly less. In 1907 30.7 per cent. of the pupils admitted to the New York State School for the Blind were cases of ophthalmia neonatorum. The Pennsylvania Institute for the Blind had among the admissions for that year 33.3 per cent. blind from ophthalmia, the Perkins Institute and Massachusetts School for the Blind had 30 per cent., the Colorado School for the Blind 42.8 per cent., the Missouri School for the Blind 31.5 per cent., the Maryland School for the Blind 30 per cent. All of you, I am sure, are familiar with these figures, but it is necessary for us to revert to them from time to time in order to keep in mind the large number of children who, year after year, without any fault on their part, are doomed by infantile ophthalmia to a life of dark-

ness. I cannot agree with those writers who claim that blindness from ophthalmia neonatorum has been very much reduced since the Credé method of prophylaxis. While a slight decrease has been observed in some quarters, an actual increase has been noted in others. On July 31, 1901, Professor Cohn of Breslau stated before the Tenth Congress of Teachers of the Blind that in 25 years there had been a reduction of only 8 per cent. in the ophthalmia blind in Germany. It should be noted here that 21 of these 25 years had the advantage of the Credé prophylactic.

In the *Münch. Med. Wochenschrift* of 1905 Dr. Salzer states that the recent statistics of the Konigliche Central-Blindeninstitut in Munich show that a decrease in the number of blind from ophthalmia in Bavaria has not taken place. In the United States the much-desired decrease has not as yet materialized. For four years ending in 1905 the annual proportion of children blind from ophthalmia entering the New York State School for the Blind was 25 per cent.; in 1906 the new class had 26 per cent.; in 1907, 30.7 per cent. In the Pennsylvania Institute for the Blind the percentage of ophthalmia blind admitted in 1900 was 44; in 1901, 35; in 1902, 23; in 1903, 50; in 1904, 25; in 1905, 50; in 1906, 31; in 1907, 33.3, the average for the eight years being 36.4. Comparing the average number during the first period of four years with the average of the second period of four years, we have a decrease of only 3.2 per cent.

In regard to the Maryland School for the Blind, the great majority of the pupils of which are from our own State, statistics seem to indicate that blindness from ophthalmia neonatorum is decidedly on the increase. In 1890 Dr. Hiram Woods examined 94 pupils who were then in the school, and found 17.9 per cent. of them blind from ophthalmia. During my connection with this same institution during the past four years I have examined 128 pupils, and found 25.8 per cent. blind from this same disease. Thus we see in the Maryland School for the Blind there has been an increase of 7.9 per cent. during 19 years in the ratio of pupils blind from ophthalmia neonatorum. These figures, it seems to me, speak for themselves, and are all the more important when we consider that it is almost 30 years since Professor Credé discovered a true and almost infallible preventive of blindness from ophthalmia neonatorum. The value of this discovery has been tested by numerous investigators and obstetricians, and throughout the world textbooks and journals, especially those of ophthalmology and obstetrics, have for nearly a generation advocated the use of the Credé method. In fact, this discovery of the Leipzig obstetrician has been so extensively published that one could hardly remain ignorant of it if he would.

Previous to the Credé discovery ophthalmia neonatorum was a virtual scourge in almost all maternities, some reporting as high as 20 per cent. of this disease in the records of births. Naturally enough, the heads of such institutions were eager for a remedy to cut down this high morbidity, and when the Credé method was

given out they adopted it readily. All of us know with what brilliant results. By the use of 2 per cent. silver nitrate Credé himself reduced the number of his ophthalmia cases from 10.8 per cent. to 0.1-0.2 per cent., and for the first six months in which he used this solution he had the pleasure of seeing the percentage of ophthalmia fall from 7.6 to 0.5 per cent. In July, 1897, Prof. M. Runge of Göttingen began to use a 1 per cent. solution instead of the original 2 per cent., and Professor Leopold of Dresden adopted the weaker silver solution in April, 1902.

In 1898 the silver prophylactic was used at Leopold's clinic in 2146 cases and only 0.14 per cent. of the babies developed ophthalmia.[3] In the same clinic from April 2 to July 31, 1902, 698 children were treated with a 1 per cent. solution, and only one infection of the eyes occurred, and that was a late infection.

From 1902 to 1905 the Dresden clinic used the same prophylactic in 7287 births, and only 0.2 per cent. of the babies had ophthalmia, although 10 per cent. of the mothers were infected with gonorrhea.[4] Ernst Runge reported in the *Berlin. Klin. Woch.*[5] of 1902 that 1917 babies had been treated with the silver nitrate in the Königliche Universitat Frauenklinik of Göttingen, and only 0.156 per cent. developed ophthalmia, though nearly 20 per cent. of the mothers had gonorrhea.

We need not go to European authorities for proof of the value of the Credé prophylaxis. Lucien Howe[6] of Buffalo has collected some very convincing figures. Of 17,767 infants having no prophylactic treatment 9.2 per cent. developed ophthalmia. Of 24,724 children treated with the Credé method only 0.65 developed the disease. Nearly all the lying-in hospitals of this country have taken up the Credé method and have almost obliterated ophthalmia neonatorum from their wards. The heads of the Baltimore maternities tell me that with the Credé method it is very rare to have a case of infantile ophthalmia, and if it does occur it is comparatively mild and never results in opaque cornea. We see from the above that lying-in institutions are doing good work in the problem of prevention of blindness.

If the ophthalmia blind do not come from the maternities, where do they come from? Would one imagine that more children blind from infantile ophthalmia come from private practice than from lying-in hospitals, where it is known there is more gonococcus infection? It seems, however, that in some sections of our country more blindness of infancy can be traced to private practice than to maternities. The histories of the ophthalmia pupils of the Maryland School for the Blind go to show that 29 per cent. of them are from the private practice of general practitioners, while I have been unable to trace a single case to a regular lying-in hospital. In view of this fact, it must be said, and that with due deference to the faithful members of our profession, that there are still some physicians who do not give as much attention to the proper treatment of ophthalmia neonatorum as they should. It is quite opportune, therefore, for the physicians of the Medical

and Chirurgical Faculty of Maryland to consider well this state of affairs and to adopt, if possible, some adequate means for its correction. The best means, it seems to me, is just that which has been found so efficient in maternities. It is simple, easily applied, and therefore within the skill of every medical man. Being inexpensive, it is within the means of the poorest patient. The essential part of the Credé method is the installation of *one drop* of silver nitrate solution into the eyes of the newborn, the original strength of the solution being 2 per cent., the accepted strength today being 1 per cent. Whether this is done as soon as the head is born, as advocated by some obstetricians, or immediately after the first bath, as advocated by others, is immaterial. Care should be taken, of course, not to let the water of the baby's first bath come in contact with the eyes, and it is well to use a small glass rod, as suggested by Credé, in the instillation of the drops. It goes without saying that the eyelids should be carefully washed with clean water and cotton before the drops are used. Are doctors willing to use silver nitrate or some other accredited prophylactic in their private practice in all cases, just as the maternities use it in all cases? When the medical man considers prophylaxis for the newborn in the abstract he has only praise and commendation for it, but he often hesitates to carry out his convictions systematically in private work. The majority of pregnant women have a vaginal discharge. Most of these are catarrhal. Some, probably from 10 to 20 per cent., are gonorrheal. In a certain number of cases it is very difficult, if not quite impossible, even with bacteriological examination, to distinguish between the benign and the virulent. In chronic gonorrhea the discharge may be very scant, and although the gonococci may be quite sparse and comparatively inactive in the vagina of the mother, they may become virulently pathogenic when brought in contact with the conjunctiva of the child. In the presence of a recognized gonorrheal vaginitis every obstetrician is, no doubt, willing to use the silver prophylactic. In cases of discharge, seemingly catarrhal, the wise and careful will use prophylaxis. But how about the hidden infections? If we confine our prophylaxis to visible, demonstrable gonorrhea, the babies of mothers with hidden infections will in every instance run great risk of acquiring ophthalmia neonatorum, and a certain number of them will certainly develop the disease.

An objection to the general application of prophylaxis in the newborn is heard from some quarters in the question, "Shall we submit the babies of all mothers to the painful use of silver nitrate in order to save the infants of mothers with gonorrhea?" As the preservation of the sight of the innocent offspring, even of a culpable parent, is the object of our best endeavor, and as the proper use of a 1 per cent. solution is entirely harmless, I think it is quite within the bounds of conservatism to submit all born of human kind to the silver prophylactic until the societies of social hygiene, in their efforts for moral improvement, bring about the abolition of gonorrhea entirely.

Another objection heard occasionally is that silver nitrate produces a severe inflammation of the baby's eyes. It is true that in a few instances what is known as a silver conjunctivitis occurs as a reaction from the prophylactic. Leopold observed this unusual reaction 61 times in 7287 cases, but in 10,000 children he never saw a single instance when the conjunctivitis became alarming. Cohn of Breslau asked 110 oculists if they had ever seen any permanent injury from the silver drops. Two answered in the affirmative. In one case a physician and in the other case a midwife had used nitrate of silver too energetically. In both the prophylactic was abused. As a rule, if a fresh 1 per cent. solution is properly used there is nothing more than a conjunctival injection which lasts about 24 or 48 hours.

Another objection raised at times against the Credé method is that it is not an absolutely certain preventive. While it is true that silver nitrate will not prevent ophthalmia neonatorum in every instance, it certainly does so in the vast majority of cases. The exceedingly few which develop the disease in spite of the prophylactic seldom, if ever, go on to destruction of the cornea and loss of vision.

A source of possible blindness which, I am afraid, may be overlooked lies in the late infections, where gonorrheal conjunctivitis appears four days, or even later, after birth. In these cases the child may be infected by an unclean attendant, by gonorrheal secretion passing by contact from mother to child, especially if the baby is allowed to lie in the same bed with the mother, or one child may be infected from another, as may happen in crowded wards of a hospital. In the *Wiener Klin. Wochensch.* for 1904 Dr. Wintersteiner[7] expresses a doubt whether the late infections can be prevented by the Credé method, and advises that a careful watch be kept on the eyes of the child during the entire convalescence of the mother. Treatment should, of course, be promptly instituted at the first signs of disease.

Cases occur exceptionally where ophthalmia neonatorum is fully developed at birth, infection having possibly occurred by the premature rupturing of the membranes.[8] Of course, prophylaxis is then too late. However, prompt and correct treatment by an expert might save the unfortunate, even in this dire emergency, from the worst results of ophthalmia.

There is another fact in connection with this subject to which I would like to direct your attention, and that is the work of the midwife in the families of those who furnish so many cases of ophthalmia blind. In the Maryland School for the Blind 71 per cent. of such blind children had mothers who employed midwives. It seems that this high percentage of midwife deliveries is significant, and any endeavor toward the prevention of blindness from ophthalmia must necessarily include the regulation of midwives.

In the State of Maryland, as elsewhere, the intelligence of the average midwife is often not of the highest order, and her education, as far as obstetrics go, is frequently sadly deficient. Ac-

cording to Dr. Mary Sherwood, about 25 per cent. of the midwifes of Baltimore cannot read or write.[9] If we can by education and legislation secure better midwives, we shall provide for the poor woman who is unwilling to have any other attendant a better and more careful accoucheur, who will not only look out for the safety of the parent, but who will see to the preservation of the sight of the child as well. In order to preserve the eyes of the child it is necessary for the midwife to use the silver preventive in 1 per cent. strength in every case. It is not wise to give her the choice of using it or not. There are many cases of gonorrhea which could easily escape her eye. In fact, how often can the physician himself be absolutely certain of the absence of gonorreal infection?

An objection has been raised to giving the midwife the silver prophylactic on the ground that it is too complicated for her to use. If we allow her to catheterize, to tampon, to rupture the membranes, even to use forceps, we may reasonably expect her to do as simple a thing as instilling a drop of the silver solution into the eyes. If the use of the silver prophylactic can be made compulsory by law, it will be much easier for the State to provide an inexpensive preventive gratuitously than assume the expense of educating and caring for the blind who are recruited yearly from the practice of midwives. It is not sufficient for the midwife to use the silver prophylactic if we are to prevent blindness. We must provide prompt treatment for the rare cases of ophthalmia which arise even after the proper prophylactic has been employed. Therefore, should the eyes of the baby become inflamed any time during the first 14 days after birth, the midwife must report the same to the Board of Health within 24 hours.

Thanks to the members of the Medical and Chirurgical Faculty, there has been an effort from time to time to secure from the General Assembly of Maryland legislation for the prevention of blindness. April 30, 1891, Dr. Hiram Woods[10] read a paper before this Faculty on "Blindness in the United States." Pursuant to a suggestion made by him, a committee on prevention of blindness was formed by the Medical and Chirurgical Faculty, consisting of Dr. Woods, Dr. Friedenwald, Dr. Michael and Dr. Rohé. April 27, 1892, this committee reported to the Faculty that they had sent a circular-letter to the midwives of Baltimore calling their attention to the prevalence of blindness from ophthalmia neonatorum, telling them of the curability of this disease if properly treated, and giving them specific directions in the care of the newborn. A year later, April 26, 1893, this same committee reported the necessity of a law to regulate the practice of midwifery. Largely by the efforts of this same committee, and to their credit be it said, a law was passed by the General Assembly of Maryland and signed by Governor Brown April 6, 1894, compelling midwives to report cases of ophthalmia neonatorum to the Health Commissioner or to some legally qualified physician.

Since the passage of this statute a number of midwives have been arrested and convicted of violation of the law. There are in

the Maryland School for the Blind nine pupils from Maryland blind from ophthalmia who were born since the law went into effect and whose mothers were attended by midwives. Hence we see the present statute is quite insufficient, and it becoms incumbent, it seems to me, upon the Medical and Chirurgical Faculty of Maryland to ask the Legislature of 1910 to give us a law regulating midwifery which will not only insure the safety of the mother, but will look to the preservation of the sight of the child.

In order to attain success from the Legislature it is absolutely necessary to take into our reckoning the moral sense of the community. In other words, we must convince the public that in trying to reduce the number of ophthalmia blind by securing proper legal control of midwives we are acting for the good of the people, and are not scheming to form an obstetrical trust. When the public will be sufficiently educated to see the present evils of midwifery the work to be accomplished through the lawmakers of Maryland will be comparatively easy. To educate public opinion in the interest of the blind is one of the main purposes of the Maryland Association for the Prevention of Blindness, which was formed in Baltimore June 16, 1909, by the efforts of Mrs. Joseph C. Bloodgood. This society is already at work distributing literature to the people, and will no doubt receive the co-operation of the physicians throughout the State. Young wives and prospective mothers are to be told the dangers of ophthalmia. If they are informed about the risk the child will run if silver nitrate is not employed, the prophylactic will be welcomed and not feared.

In conclusion, I may say that, notwithstanding the Credé prophylaxis, unless the physicians of Maryland enlist heartily in the crusade against blindness, and individually as well as collectively do their best to prevent infantile ophthalmia; unless the co-operation of the laity can be secured in this great work, and unless the General Assembly of Maryland can be induced to institute proper control of the midwives, I see little or no hope in the immediate future of reducing the present fearful destruction of eyes which is going on in our State from ophthalmia neonatorum.

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SURGERY OF THE KIDNEY.

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(*Continued from November Number.*)

Infections.—The kidney may become infected in either of two ways—from the circulation or by extension from the lower urinary tract. In either case it is probable that some injury to the kidney or the presence of an embolus is necessary in order that the organisms may develop. True embolic infections are usually bilateral, and are part of a septicemia or pyemia. An infection may come from the bacteria themselves lodging in a terminal vessel, and is then most often unilateral.

The relative greater frequency of right-sided disease when these infections are unilateral agrees with Wyss' conclusions concerning the squeezing of the kidney in exertion as a factor in the etiology of its diseases.

Acute Unilateral Hematogenous Infections.—Brewer (*Surgery, Gynecology and Obstetrics,* May, 1906) and Farrar Cobb (*Annals of Surgery,* November, 1908) call attention to this extremely important condition. The disease may occur as a result of any septic condition in the body, or as a sequel to any infectious disease. Chronic constipation may be an etiological factor, because the colon bacillus is often the organism present. Other organisms that have been found in these abscesses are the common pus organisms, the streptococcus and staphylococcus, the typhoid bacillus, pneumococcus, pyocyaneus and diphtheria bacillus. Brewer's animal experiments illustrate the importance of injury to the kidney in the development of this disease. Early in the disease the infected kidney shows the presence of multiple infarcts. Later there are developed single or multiple abscesses with edema and occasionally suppuration of the perirenal tissue.

The course of the disease varies. In the fulminating cases the symptoms are practically those of an acute abdominal infection, and often the diagnosis cannot be made, except at operation. Ordinarily there is a chill followed by fever, and the signs of severe toxemia. Abdominal pain and tenderness are present, and may be so localized as to lead to the diagnosis of appendicitis or cholecystitis. An enlarged and tender kidney when present with these general symptoms will make the diagnosis. The one pathognomonic sign is marked unilateral costovertebral tenderness. This sign should be sought for whenever the abdomen is examined for the cause of an acute infection.

The urine seldom shows more than a trace of pus, because the secretion of the infected kidney is inhibited. Leucocytosis is high, in the very acute cases from 20,000 to 35,000.

In the fulminating cases, when there is no postive evidence that the kidney is the seat of the trouble, Cobb does a laparotomy, and

explores the kidney through this wound. If the peritoneal cavity is found free from infection, he performs an immediate lumbar nephrectomy. With very ill patients Van der Veer (*Surgery, Gynecology and Obstetrics,* Vol. I, p. 175) recommends the use of clamps instead of ligatures for the pedicle in doing the nephrectomy. Nephrectomy is the operation of choice in most of these cases. When the number of infarcts is limited and the general condition of the patient is good, nephrotomy and drainage of the infected areas may be done.

Suppurative Inflammation of the kidney, in addition to the above variety, may occur as a less acute process in one of the following forms: Suppurative nephritis, pyelitis and pyelonephrosis.

Suppurative Nephritis (*Surgical Kidney*).—This condition may result from embolic infection of the kidney or from an ascending infection from the lower urinary tract. In the early stages the pathological picture distinguishes the route of infection. Any of the bacteria noted in the preceding disease may cause suppurative nephritis. Metastatic suppuration frequently occurs from trivial superficial abscesses, as, for example, from a furuncle.

In cases of hematogenous infection the kidney shows rows of minute abscesses scattered throughout the cortex, or fine gray or yellow stripes among the straight tubules or in the papillæ. Sometimes there will be a pyramidal area of necrosis surrounded by an area of hemorrhagic interstitial tissue, separated from the healthy kidney substance by a zone of hyperemia. These areas are usually multiple, and have the base of the pyramid toward the capsule. The necrotic material softens and forms pus, and at the same time two or more of the abscesses may coalesce to form larger ones. The kidney is enlarged, and shows elevations of the capsule in the position of the cortical abscesses. As a result of pressure and other alterations of the circulation there comes a gradual or rapid degeneration of the parenchyma between the abscesses. At the same time there is extension of the abscesses until the pelvis on the one hand and the fatty capsule on the other become infected through a rupture and the discharge of pus. We then have developed a pyelonephritis, or a parenephritic abscess.

Ascending infection is favored by obstruction to the flow of urine. Suppurative pyelitis occurs, and there is extension of the process to the papillæ, and later to the pyramids and the cortex. Abscess usually occurs first in the pyramids. Extension of either process may continue until the entire kidney tissue degenerates and the organ is replaced by a polycystic abscess cavity whose walls are made up in part of necrotic parenchyma.

Pyelitis is a suppurative condition of the mucous membrane of the renal pelvis. In long-standing cases the arrangement of the epithelium is irregular, in places thinned and in others thickened. Similar alteration of the basement membrane is found, so that in places it is deficient, in others thick, hyaline and sometimes ossified. Occasionally there are formed invaginated areas of epithelium,

which form inclusion cysts (*pyelitis cystica*). When uncomplicated, the condition is not dangerous to life, and is usually cured by the internal administration of urinary antiseptics. This is the common cause of pus in the urine of retention, in the course of infectious diseases and in the urine of pregnant women. Associated with stone, or with long-continued obstruction to the flow of urine, a pyelitis may set up a pyonephritis or pyonephrosis.

Pyonephrosis is a renal suppuration associated with retention of pus and urine in the pelvis of the kidney. Some form of urinary obstruction is essential for the development of this condition, calculus, kinked ureter, stricture of the ureter or urethra, etc. Tandler and Zuckerhandel (*Berliner k. Wochenschrift,* November 23, 1908) call attention to the fact that in prostatic hypertrophy the relations of the vas may be so altered that it will pull down the ureter as it crosses over this tube, and thereby cause obstruction, with dilatation of the pelvis of the kidneys and serious back pressure in these organs.

The gonococcus is the organism most frequently found in ascending pyonephrosis.

The general symptoms of these subacute suppurative diseases are fever, which may be a sudden, rapid rise with a chill, or a gradually increasing evening temperature. The leucocytosis varies in wide limits. There may be pain or discomfort in the region of the kidney and renal tenderness on palpation. The attack may come on suddenly with fever, colic, renal tumor, pain and great tenderness. Urinary symptoms vary, either marked or slight. Anuria or polyuria are likely to occur. Pus is constantly present in the urine, the quantity varying. When a previously purulent urine becomes clear and at the same time local symptoms of kidney infection become marked, a pyonephrosis is the cause. Some hematuria is usually present. Frequent micturation, with tenesmus, is apt to call attention to the bladder rather than to the kidney. Cystoscopy and catheterization of the ureters are valuable aids in diagnosis and in determining the treatment. When cystoscopy is impossible, irrigation of the bladder will aid in determining the source of the pus in the urine. After the washings return clear the urine in cystitis will remain free from pus for some little time, while the urine from a suppurating kidney will be cloudy at once.

Treatment may be by internal medication (simple pyelitis), by nephrectomy, resection or nephrotomy. When the condition of the kidney exposed at operation shows it has been so changed that it has little or no excretory power, nephrectomy is the operation of choice. Some knowledge, however, of the condition of the other kidney should be obtained before operating. Whenever a considerable amount of functioning substance is left, nephrotomy and drainage of the abscesses should be performed.

In pyonephrosis the important point is to remove the source of obstruction, if this is possible. Nephrotomy must be done and provision made for free drainage. The drainage will persist until the

obstruction is overcome or all renal parenchyma is destroyed. For this reason it is often necessary to do secondary nephrectomy or plastic operations on the ureter and pelvis. Morgan (*Surgery, Gynecology and Obstetrics,* Vol. IV, p. 783) reports a case of pyonephrosis in which he resected the kidney and did a plastic operation on the ureter. The result was excellent, the function of the resected kidney being perfectly restored.

Tuberculosis.—Walker (*Johns Hopkins Hospital Reports,* 1904) gives a very complete study of tuberculosis of the kidney. Much controversy has been waged over the etiology of this disease, but it is generally accepted that in 90 per cent. of the cases the infection is unilateral, hematogenous, and not ascending. H. Kelly (*British Medical Journal,* June, 1905) gives some valuable notes on this subject.

Renal tuberculosis may occur as part of the acute miliary disease. Fortunately these cases are not common, because in them the hope for cure by surgery is lost. Most often the lesion is isolated in one kidney. The lower pole is usually the one involved. Israel explains this by the fact that there is often an anomalous artery going directly from the aorta to the lower pole of the kidney.

Trauma, previous infections and irritations are factors in determining the seat of the disease. Late in the disease there is an ascending infection of the other kidney from the involvement of the bladder.

The symptoms are commonly irritability of the bladder, pus and blood in the urine, with or without pain, tenderness and tumor in the region of the kidney. The cystoscopic appearance of the ureteral orifice has been mentioned. Ureteral catheterization may be impossible, because of the irritability. When separated urines can be obtained the bacillus can be found by staining the sediment, or its presence shown by inoculation of animals. When the quantity of pus in the urine is large and the bacteria few, the lesion is probably an old one with sclerotic walled cavities. The quantity of pus seems to depend on the extent of kidney involved (Armstrong, *Annals of Surgery,* XLVIII, p. 93).

Injections of tuberculin are most valuable when they give a distinct local reaction, therefore this should be carefully looked for in suspected cases.

The treatment is nephrectomy whenever the other kidney is sound, or in such condition that it can do the work of both. Nephrotomy may become the operation of necessity when both kidneys are diseased or in very ill patients. Berg (*Medizinische Klinik,* Berlin, August 30, 1908) advises nephrectomy for tuberculosis of one kidney, even if the other is functionally deficient, because this deficiency is often reflex and will be corrected by the removal of the diseased organ. Although the ureter is usually infected, it is not necessary to remove it in most cases. Disinfec-

tion of the ureter by injecting it with pure phenol before ligation is usually sufficient.

Kelly (*loc. cit.*) reports two cases in which there was extension of the tuberculosis into the ureter and bladder. The desperately ill patients finally recovered after nephrouretereo-cystectomy. In all cases the general hygienic management of tuberculosis must be carried out.

Nephrolithiasis (Renal Calculus, Stone in the Kidney).—The formation of concretions in secreting glands or their ducts is usually due to infection, alteration in the character of the secretion or injury to the gland or duct. Frequently it is due to a combination of all these factors, and with any of them some stasis of the flow of the secretion seems to be essential. In the case of renal calculi various theories of formation have been advanced. The frequency of uric acid infarets in the kidneys at birth has led to the belief that simple concentration of the urine is responsible for some calculi. Many proofs have been brought forth to show that this position is untenable, and that the formation of stones in the kidney is the result of a series of changes, and not due to any one cause.

Urinary stasis is the one constant factor in the etiology of calculi. The stasis may be the result of local edema and swelling around a small area of infection, or of an injury, or be due to some grosser obstruction. A blood clot in the pelvis or in one of the calyces may follow injury to the kidney and become the nucleus of a stone. Certain parasites, e. g., distoma hematobium and the filaria, may form the nucleus of a calculus. All sorts of foreign bodies have been reported as nuclei for calculi.

Certain soft stones, consisting of fibrin and similar materials, have been reported. (Gage and Beal, *Annals of Surgery,* Vol. XLVIII, p. 378.) The ordinary calculi are of different degrees of hardness, and consist of uric acid, oxalates, phosphates, and of cystin. The formation is in concentric layers around the nucleus. Phosphatic stones are practically always secondary deposits on other varieties due to alteration of the composition of the urine from infection.

Calculi may form anywhere in the kidney, but are commonest in the calyces and pelvis. Those found in the calyces about small deposits are called primary stones, while those formed in the pelvis following an ascending pyelitis are secondary. Calculi are usually small and few in number, taking their original shape from the space in which they are formed. Cases with large numbers of stones and with calculi of enormous size have been reported. Barrow (*Proceedings American Surgical Association,* 1908) reported the removal of a kidney stone weighing one pound and two drachms.

Bilateral calculi occur in about 15 per cent. of all cases of stone. In their treatment knowledge of the condition of each kidney becomes very important.

The presence of a stone gives rise to certain changes in the kidney

tissue. If aseptic, there will be a gradual passive congestion, with formation of new connective tissue around the calculus and degeneration of the adjacent parenchyma. The stone may grow in size with progressive atrophy of the parenchyma until the kidney is replaced by a calculus in the fibrous capsule.

The stone may obstruct the flow of urine and lead to hydronephrosis. More often there is a secondary infection, the tissues around the stone ulcerate, become necrotic and are incrusted and impregnated with salts from the alkaline urine. Pyonephrosis develops from obstruction, and may progress to suppurative nephritis and paranephritic abscess. Suppuration in the other kidney develops rather often and early in cases of calculus pyonephrosis. Reflex anuria frequently occurs when the calculus obstructs the ureter.

The symptoms of stone may be entirely absent when the calculus is quiescent or encysted. Usually there is some discomfort in the region of the kidney that leads to examination of the urine. Hematuria is a very constant symptom. Gibbon (*Annals of Surgery,* Vol. XLVII, p. 1059) considers the presence of microscopic blood in the urine an extremely important sign. When the stone is sharp or movable it will cause attacks of kidney colic. An afebrile kidney colic followed by pus and blood in the urine is valuable confirmatory evidence of the presence of stone. Brewer (*loc. cit.*)

The X-ray picture, properly made and interpreted in connection with the clinical symptoms, is the best method of diagnosis. Leonard (*loc. cit.*) and Osgood (*Annals of Surgery,* Vol. XVI, p. 905) give very thorough descriptions of the methods to be employed and the facts to be considered in arriving at a diagnosis. Garre and Ehrhardt (*loc. cit.*) state that a positive diagnosis of stone in the kidney can be made by the X-ray in all cases if a compression diaphragm is used. This is probably Utopian.

The treatment of calculus is by nephrotomy with removal of the stone. Drainage of infected areas is essential, and it may be necessary to do a plastic operation on the pelvis and ureter on account of dilatation and kinking. Nephrectomy is rarely required unless the condition of the kidney is such that it is functionally useless.

With bilateral calculi double nephrotomy will be required. Eisendrath (*Journal American Medical Association,* Vol. LII, p. 2103) reports a case and recommends separate operation at an interval of about four weeks, whenever there are no urgent symptoms. Watson (*Annals of Surgery,* Vol. 46, p. 441) and Babcock (*Annals of Surgery,* Vol. 47, p. 600) advise consecutive bilateral operations whenever there is no marked infection, and report illustrative cases. Treplin (*Archiv. f. Klin. Chir.,* 1904) divides cases of bilateral stone into two classes—those in which there is sudden complete anuria from blocking, and those in which there is a gradual loss of kidney function. In both varieties we may have anuria, and the treatment depends on the cause of the anuria. When this is due to blocking by the stone, operate on the kidney last affected at once, because you are then able to relieve the

better organ earliest. In the other variety it is best to relieve the kidney earliest affected at the first operation, because then the better kidney may pick up in function when relieved of part of the work.

Hydronephrosis is a condition of distension of the kidney by amicrobic urinous fluid, with progressive sclerosis of the pelvic walls and of the kidney. There is always a monocystic sac with walls of compressed kidney tissue. Limiting the condition to those cases which will come under this definition, we avoid confusion of hydronephrosis with those retentions and accumulations of urine in the ureter and pelvis of the kidney that are accessory or secondary to pressure on the urinary tract. The dilation of the pelvis observed as a late result of urethral stricture is not hydronephrosis. Neither is the dilation that follows tumors and inflammation of the ureters and other pelvic organs, the bladder, prostate, etc. The rare instances where inflamed retro-peritoneal glands, tuberculous or otherwise, by pressure on the ureter, cause urinary dilatation of the kidney, do not belong to this group of cases, although the condition of the kidney becomes the most important factor in their prognosis and treatment. All of these conditions belong to the complications of their original cause and should be studied there. F. E. Gardner (*Annals of Surgery,* Vol. XLVIII, p. 575) groups under hydronephrosis the class of cases in which renopelvic distention is the chief feature of the disease, the essential and dominating element. Etiologically they are the result of non-malignant alterations of the ureter. Anatomically the distention is of the pelvis and calyces. Dilation of the ureter is a secondary change. At operation, after emptying the sac the renal pelvis is found enlarged, flaccid and wrinkled. (Brewer *loc. cit.*)

We distinguish between congenital and acquired hydronephrosis. Gardner (*loc. cit.*) shows that the former class is much larger, and that the cause of most cases is some arrest of development of the ureter, with persistence of the fetal valve-like arrangements and certain angulations due to the rotation of the developing secretory portion of the kidney during the embryological formation of the organ. The frequent association of hydronephrosis with anomalous arteries, with congenital misplacement of the kidneys, with horseshoe kidney and other abnormalities of development has led some authorities to the belief that all cases are congenital. This Gardner denies, and states that there are undoubted cases of hydronephrosis due to acquired movable kidney, to impacted stones, ureteritis periuteritis and cicatraces of the ureter.

Traumatic hydronephrosis is an important variety. The condition is rare; but does occur. The hydronephrosis is never an immediate sequel to the injury, but develops from three to six months or longer afterwards. Most often it is a sequel to a stricture of the ureter due to a deep contusion in the loin. Wyss (*loc. cit.*) states that traumatic hydronephrosis due to dislocation of the kidney and injury to the ureter is not rare.

As a result of hydronephrosis we may find any degree of atrophy

of the kidney. As a rule, the amount of active parenchyma diminishes with the size of the tumor, but even in enormous hydronephrotic kidneys active secretion of urine may occur after the pressure has been relieved by incision of the sac. Finger (*Archiv f. Klin. Chirurg.*, 1900) has shown that as a result of the distention of the pelvis the insertion of the ureter comes to be high and oblique, while a valve-like obstruction may be formed by the thinned pelvic wall.

The accumulation of fluid in the sac goes on for a certain time, and then, as a rule, is evacuated through the ureter. The extent of the accumulation depends on many factors, principally on the situation of the ureteral opening and the valve-like process. This alternate filling and emptying of the sac gives the name *intermittent hydronephrosis* to the condition.

The symptoms of hydronephrosis are:

1. A tumor in the region of the kidney. The tumor varies in size in different cases and changes its dimensions in the same individual.
2. Recurrent attacks of afebrile colic, associated with enlargement or greater distinctness of the tumor in the loin.
3. These attacks are followed by polyuria. This may be excessive, and is not the discharge of the contents of the sac, but is due to the relief of the intense congestion of the kidney, which is the cause of the pain and swelling of the organ during the attack of colic.
4. The urine shows little or no change, and usually is free from pus and blood.
5. The onset may be fulminating with symptoms of uremia, the tumor being discovered for the first time at this examination. Rapid nephrotomy is usually required in these cases.

A hydronephrosis may become infected either by metastatic deposit or ascending infection. When this occurs the symptoms will be those of pyonephrosis and similar treatment will be required.

The treatment of hydronephrosis depends on the condition of the other kidney and the amount of secreting function retained by the diseased one. The operation of choice is nephrotomy, removal of the cause of obstruction if possible, and usually a plastic operation on the pelvis and ureter in order to give a free channel for the flow of urine to the bladder. Nephrectomy should not be done except as a last resort, and then only after careful study of the condition of the other kidney. It may be necessary to do preliminary nephrotomy for the relief of urgent symptoms and do the plastic operation later. Kröenlein thinks nephropexy valuable in hydronephrosis.

(*To be continued.*)

OSTEOMALACIA and osteopsathyrosis call usually for administration of thyroid extract, either alone or combined.—*Roswell Park, Northwest Medicine.*

MARYLAND MEDICAL JOURNAL

JOHN S. FULTON, M.D. *Editor*

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BALTIMORE, DECEMBER, 1909

A NEW BUNDLE OF NERVE FIBERS.

H. J. H. HOEVE has recently described a bundle of nerve fibers (*Iowa Medical Journal*) which makes a direct connection between the cortex of the temporal and occipital lobes. He was always puzzled during his dissection of the brain by encountering a certain bundle of fibers a little external to the corpus mamillare, and which he imagined came from the latter. Lately he has succeeded in tracing it through its entirety, and found that it has nothing to do with the corpus mamillare, but forms a direct connection between the lemniscus medialis and the cerebral cortex, without entering the thalamus.

The lemniscus temporalis et occipitalis is a cord-like bundle of fibers, which is much twisted upon itself. Its anterior portion is nearly round, and its posterior flattened from side to side. It consists of a forward and outward extension of the upper part of the lemniscus medialis, which passes toward the cortex of the occipital lobe and posterior part of the temporal lobe without entering the thalamus. The discovery is of importance chiefly in clarifying the atmosphere of the cerebrum of another of its anatomical mysteries, and indicating the course of an association tract between the temporal and occiptal cortex.

REPAIR OF BLOOD-VESSELS BY SUTURE.

THE current belief that sewing of blood-vessels after an injury, in order to permit of a restoration of the blood-carrying function, is a modern idea (E. MacD. Stanton, *Albany Medical Annals*), is by no means correct. Broca in 1762 reported a case in which he sutured a longitudinal incision of an artery successfully. In 1889 Bruci sutured six longitudinal incisions in arteries of dogs, of which four were eminently successful. Heidenhain in 1894 closed by cat-gut suture a longitudinal incision about a centimeter in length accidentally made whilst removing carcinomatous glands, with no interruption to the circulation in the extremity. Wounds in veins

are easier to repair than those of arteries. Small wounds have for a long time been handled by lateral ligaturing. More extensive wounds may be closed by a running suture of fine silk, care being taken to evert the edges so as to obtain coaptation of the intima.

It was Murphy who made suturing of arteries practical. In 1896 he reported a series of 34 animal experiments and two clinical cases, in each of which the femoral artery and vein were sutured. Both of the clinical cases were successful. Murphy considered the essential points in the technic to be (1) complete asepsis; (2) exposure of the vessel with as little injury as possible; (3) temporary suppression of the blood stream; (4) control of the vessels while applying the sutures; (5) accurate approximation of the walls; (6) perfect hemostasis by pressure after clamps are taken off; (7) toilet of the wound.

Others are working along the same lines laid down by Murphy, and in the near future the practice of suturing vessels essential to the life and usefulness of the part will be a firmly established surgical procedure.

ISLANDS OF LANGERHANS AND GLYCOSURIA.

While glycosuria occurs independently of pancreatic affection, Opie and others have proven the islands of Langerhans of paramount importance in maintaining the normal carbohydrate metabolic balance. In certain intense glycosurias the only lesion apparent is the destruction of the islands of Langerhans without involvement of the remainder of the gland. In order to affirm or disprove Opie's findings, MacCallum (*Johns Hopkins Hospital Bulletin*) gives expression to the following conclusions based upon animal experimentation: "When a portion of the pancreas is separated from the rest and its duct ligated, it undergoes extensive atrophy, a tissue remaining which is apparently composed of enlarged islands of Langerhans and the remnants of pancreatic ducts. If the rest of the pancreas be removed, this atrophied remnant is capable of warding off glycosuria even when considerable amounts of dextrose are injested. When it itself is removed also, glycosuria appears at once spontaneously. Whether the glycosuria would persist until the death of the animal remains to be determined, but this experiment suggests the possibility that there may be some compensation on the part of other organs, both with regard to glycosuria and the faulty assimilation of fat after the loss of the pancreas."

Medical Items.

JAMES H. JARRETT, M.D., of Towson, is recovering from a severe attack of indigestion and vertigo.

GEORGE BROWN REYNOLDS, M.D., who has been a patient for some weeks at the Johns Hopkins Hospital, has returned home much improved.

EUGENE FAUNTLEROY CORDELL, M.D., was given a verdict of $720 in his suit against the Woman's Medical College for amount owing him for services as teacher.

HARRY LOUIS HOMER, M.D., University of Pennsylvania, '04, has assumed charge of his work as resident physician at the Union Protestant Infirmary, vice Richard P. Bell, M.D., resigned.

ALBERT F. CONREY, M.D., underwent an operation for appendicitis at the Mercy Hospital recently, and is now rapidly recovering.

AS A part of the annual course of lectures on parasitic diseases at the Johns Hopkins Hospital, several lectures will be given on the hookworm disease by Dr. Charles Wardell Stiles.

THE Health Department reports that there was a marked decrease in the number of cases of typhoid fever for October of this year, but that almost twice as many cases of tuberculosis were reported.

GEORGE I. WHITE, M.D., of Marion, N. C., has been a patient for some weeks at the University Hospital.

SAMUEL THEOBALD, M.D., was tendered a banquet at the University Club on the occasion of his birthday, November 18, by the surgical staff of the Baltimore Eye, Ear and Throat Hospital, who also presented him a large silver loving cup.

HARRY F. SHIPLEY, M.D., of Granite, Md., has recovered from the injury recently incurred by a fall from his horse.

THE Goldberger prize of 2000 crowns from the Imperial and Royal Society of Physicians in Vienna, which is awarded every three years for the best work done in experimental medicine during that period, has been given this year to Dr. Clement von Pirquet of the Johns Hopkins University for his work in and discoveries of certain phases of immunity and skin reaction. At the recent meeting of the Baltimore City Medical Society Dr. von Pirquet read a paper on "Cutaneous Tuberculin Reaction."

A COURSE in tropical diseases and medical parasitology is announced to be given at the Oakland College of Medicine, Oakland, Cal., January to March, 1910, under the direction of Creighton Wellman, M.D.

A NUMBER of representative Baltimore citizens met and discussed the need of a hospital in South Baltimore. A committee composed of the Mayor and several well-known physicians and ministers was appointed to prepare plans for permanent organization and means for collecting the necessary funds. This should meet the approval of every Maryland physician.

THE report submitted by Dr. J. Clement Clark to the board of managers of the Springfield State Hospital shows that the general health of the inmates is good.

AT the recent meeting of the Baltimore County Medical Association a paper was read by Gordon Wilson, M.D., of Baltimore, on tuberculosis, which was afterwards discussed by Drs. J. S. Bowen, W. S. Janney, R. C. Massenberg and W. J. Todd.

THE Maryland Psychiatric Society met at Bayview Asylum on November 16 and discussed the question of State care of the insane.

THE 61st meeting of the American Association for the Advancement of Science will be held in Boston December 27, 1909, to January 1, 1910.

MARRIAGES.

RICHARD P. BELL, M.D., of Baltimore, to Miss Mary C. Grasty of Staunton, Va., at Staunton, November 24.

ROBERT L. MITCHELL, M.D., University of Maryland, '05, of Baltimore, to Miss Annie Inskip Smith of Elkton, Md., at Elkton, November 17.

JOSEPH ENNALS MUSE, M.D., Baltimore Medical College, '98, of Baltimore, Md., to Miss Laura Manulita Travers of Taylor's Island, Md., at Cambridge, November 3.

LOUIS C. LEHR, M.D., Johns Hopkins University Medical Department, '02, of Washington, D. C., to Miss Marie Worthington Conrad of Baltimore, in Baltimore, November 17.

DEATHS.

NATHANIEL WILLIAMS, M.D., University of Pennsylvania, '68, at his home in Hampton, Va., of heart disease, aged 65 years.

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Book Reviews.

THE AMERICAN ILLUSTRATED MEDICAL DICTIONARY. The new (fifth) revised edition. Compiled by W. A. N. Dorland, M.D. Leather; $4.50 net; indexed, $5 net. Philadelphia: W. B. Saunders Company; Baltimore: Medical & Standard Book Co. 1909.

Dorland's "American Dictionary" is too well known to our readers to need an introduction. This new edition has all of the good features of the old and many new attractions. The name Dorland is intimately associated with the most authoritative and complete medical lexicography ever issued in the English tongue, and this volume is to become undoubtedly the standard work of its kind. It contains a complete dictionary of the terms employed in medicine, dentistry, pharmacy, chemistry, nursing and allied sciences; profusely illustrated; printed in a bold, clear type, easy upon the eyes; handsomely bound in flexible leather—to be terse, an encyclopédia upon medical topics. The contents contain, among other things, a most complete and authoritative list of medical abbreviations and the addition of more than 2000 new terms. It is the most modern, authoritative and complete medical dictionary ever published.

THOSE NERVES. By George L. Walton, M.D., author of "Why Worry?" Price $1. Philadelphia: J. P. Lippincott Company. 1909.

In the latter half of this book there are some good things about obsessions and some praiseworthy reflections on habits. In regard to the first half we speak with less assurance. We have not personally had "nerves" of the variety which could be soothed by dissertations on the views of ancient heathen stoic philosophers. Nor has Ebers' "Emperor" ever had the "adjusting" influence on our "mental perspective" that the author ascribes to it. Our attitude in this matter is one of wistful regret. The kind of nerves (the reader will kindly pardon the personal tone) which we have experienced is one which has severely strained the resources of ancient and modern religio-philosophy, the moving-picture show and Mr. Dooley combined.

Can it be that the author is falling into the book-making habit, which has ruined so many successful writers? We honestly do not believe that in his office he recommends "the study of ancient history" for the cure of "oversensitiveness" in his lady patients. We feel also that the author has failed to appreciate the respect due to a genuine attack of "nerves."

The publisher's work is excellent, the clear, uncrowded type (in keeping with a very commendable tendency of modern typographic art) being very pleasant and soothing to the overstrained eyes of this present literary era.

PRACTICAL POINTS IN THE USE OF X-RAY AND HIGH-FREQUENCY CURRENTS. By Aspinwall Judd. Cloth, $1.50. New York: Rebman Company. 1909.

The beginner in electro-physics will find this little book of some 180 pages an invaluable aid in his work. It is written in simple

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language, bold type and illustrated. It begins at the foundation of the subjects discussed and gradually works up to the perfected machines and their uses. Within its pages is a complete exposition of the management and care of static machines, coils and high-frequency instruments, together with the methods of the application of the several forms of energy evolved to the diagnosis and treatment of disease. One of the greatest difficulties encountered by the tyro in X-ray work is the management of the tube. The author gives this important subject a chapter. Special tubes for treatment purposes, properties of the cathode and X-rays, wild rays, secondary rays, reversed rays, *modus operandi* of the self-regulating tube, general laws governing the use of X-ray tubes, etc., are concisely but admirably explained. A chapter is given over to the treatment of skin affections and still another to deep-seated lesions. The reviewer takes great pleasure in recommending the book to the medical profession as a thoroughly reliable and up-to-date production.

A Textbook of Obstetrics. By Barton C. Hirst, M.D. Sixth revised edition. Cloth, $5 net; half morocco, $6.50 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co. 1909.

This is one of the best books of its kind upon the market. The revised sixth edition measures fully up to the standard of its predecessors. Whilst not as comprehensive as some of the other obstetrics upon the market, this is in its favor, as the essentials of gynecologic art are thoroughly and masterly presented. We cannot help calling attention to the 847 illustrations, many of them colored and all works of art. Besides a complete exposition on obstetrics, there is an extensive section on related gynecologic operations which cannot but help prove instructive and useful to the reader. It is an ideal textbook for students and general practitioners, is thoroughly up to date and sufficiently fulsome for the weary physician.

Surgical Diagnosis. By D. N. Eisendrath, M.D. Second revised edition. Cloth, $6.50 net; half morocco, $8 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co. 1909.

Eisendrath's new "Surgical Diagnosis" contains so much of good that the reviewer finds it impossible to enumerate all its virtues. Although a diversity of surgical problems are considered, no inaccuracies were noted either in subject-matter or typographically. It is, indeed, an indispensable book to teachers of surgery, and general practitioners will find much in it of profit and instruction. Too little attention has been paid to diagnosis in surgery, operative technique having engrossed the attention of the large majority of authors. This book has and will continue to be a model of its sort. The story is told in plain, concise, elegant English. The illustrations, many of which are colored and most of which are original, materially simplify the text. The several surgical conditions, the methods of their diagnosis and the symptoms appertaining thereunto are discussed *seriatim*. Above all, the volume is eminently practical. The reviewer takes great pleasure in recommending this literary production to the phy-

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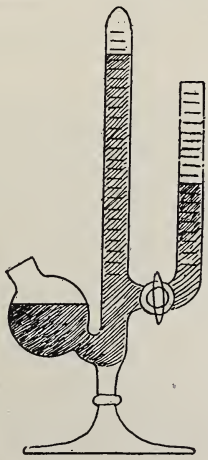

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sicians of Maryland, and feels assured they will not regret its purchase.

EXERCISE IN EDUCATION AND MEDICINE. By R. Tait McKenzie, M.D., Professor of Physical Education, University of Pennsylvania. Cloth, $3.50 net; half morocco, $5 net. Philadelphia: W. B. Saunders Company. Baltimore: Medical & Standard Book Co. 1909.

This is the first book of its kind we have been privileged to see. It is a complete and scientific study of exercise and its relationship to health and disease. There is no doubt that exercise plays a prominent rôle both in the production and cure of disease. This volume, written by an expert in physical culture, endeavors to attract proper attention to physical education as a therapeutic agent. Part I deals with "Exercise in Education" and Part II with "Exercise in Medicine." Chapters are devoted to "Flat-Foot and Its Treatment;" "Scoliosis—Its Causes, Varieties, Diagnosis, Progress;" "The Treatment of Scoliosis;" "The Exercise Treatment of Diseases of the Circulation;" "The Treatment of Locomotor Ataxia by Exercise;" "The Physiology of Exercise;" "Massage and Passive Motion;" "Playgrounds and Municipal Gymnasiums;" "Physical Education in Schools;" "Physical Education of Mental and Moral Defectives." The contents are abundantly illustrated and the presswork excellent. The book, of necessity, is bound to prove of inestimable value to physical culturists, and is bound to be a boon to exercise as a remedial agent.

PHYSICIANS' VISITING LIST FOR 1910. Philadelphia: P. Blakiston's Son & Co. $1.

Blakiston's Visiting List is a handy vest-pocket book, with blank spaces for the entry of the names of 25 patients weekly, cash account, address of clients, vaccination engagements and an abundance of useful information in condensed form; namely, new obstetrical table, table of weights, antidotes for poisons, dose-table, etc., bound in flexible leather.

THE RELATION OF MEDICINE TO PHILOSOPHY. By R. O. Moon, F.R.C.P., assistant physician to the Royal Waterloo Hospital, London. New York: Longmans, Green & Co. 1900.

In every cultured community there are physicians whose greatest refreshment after a day's duties are over is to take up a book on the philosophical and historical side of medicine.

The present is complete only when linked with the past, and that calling which knows not its own past must waste many precious moments repeating again and again the errors of men long dead. In the speculative departments of medicine the same old false premises are used at intervals adown the ages for the erection of slightly varied systems of healing. Only a knowledge of history can make one wise against their specious pretenses.

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of medical thought; now luring it into quagmires of theoretical speculation, now calling it back to the terra firma of anatomical study and clinical demonstration. The author deserves the thanks of the American profession for his clear, concise presentation of a large and difficult subject. The volume is well worth purchase by every physician who aspires to general medical culture.

Quain's Anatomy. Volume III, part 2. The Peripheral Nerves and Sense Organs. Edited by E. A. Schäfer and John Symington. Eleventh edition. New York: Longmans, Green & Co. 1909.

This is a masterful and scholarly presentation of the present status of the anatomy of the peripheral and sympathetic nervous systems and the sense organs. Much of the section has been rewritten by two eminent specialists—Professor Schäfer, who contributes the microscopic, and Professor Symington, the macroscopic anatomy. Many illustrations, most of which are original, have been added, and materially clarify the contents. The sympathetic nerves and ganglia and cerebrospinal nerves are exhaustively described.

Obstetrics in Abstract. By William D. Inglis, A.M., M.D. Medical Abstract Publishing Co. Price $1.

This little publication is a vest-pocket edition of the essential facts and principles of obstetrics. It is clearly written, and covers the subject in a neat and concise manner. It is an edition most useful to the student and general practitioner as a ready-reference.

Primer of Sanitation. (New World Science Series.) By John W. Ritchie, professor of biology, College of William and Mary. Yonkers-on-Hudson, New York: World Book Co. 1909.

In reviewing a previous volume of this series we discussed the question whether this method of instruction for the child is desirable. The textbook now before us contains many interesting facts of sanitation, presented in a very attractive way, and the text has received the approval of many State sanitarians and other reviewers of its manuscript. It will probably pass muster among textbooks for children used in the public schools. It is attractively printed, contains a number of apt illustrations and is durably bound.

Being asked, however, to give it a searching criticism, we must say that the book is not perfect. It seems to be the work of at least two different writers, whose contributions are at times at variance with one another.

Many plain indications appear of the truth, which was to be anticipated, that a biologist cannot write a finished treatise on a subject involving practical medicine. He may furnish an excellent outline, but he must have the aid of a physician for the perfecting. There are also a few quite unpardonable misstatements of fact, which would bring censure upon anyone who wrote for the instruction of adults.

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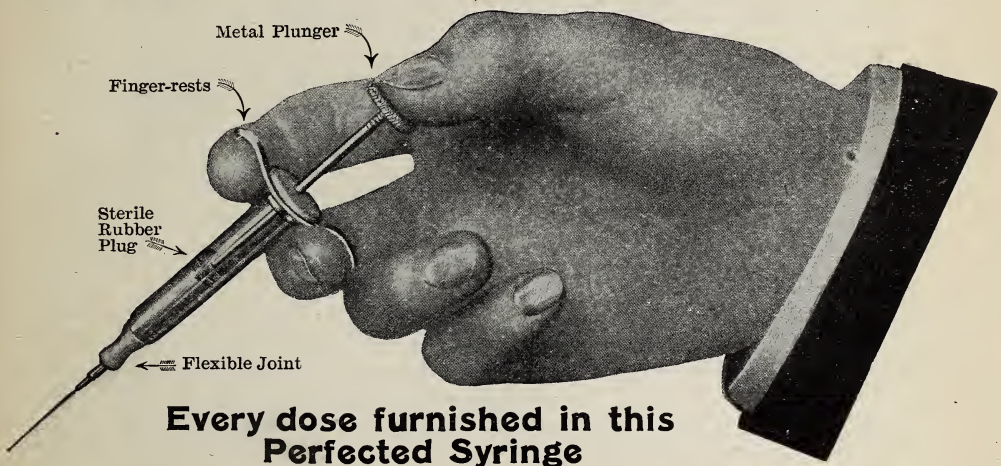

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THE RELATION OF HOUSE-FLIES TO THE SPREAD OF DISEASE.

By Henry Skinner, M.D.,

President of the Entomological Society of America, Philadelphia.

The house-fly, Musca domestica, was described by Carl von Linne in 1758. The transformations are complete, there being four stages—the eggs, the larvæ and the puparium (containing the chrysalis) and the imago, or perfect insect.

The eggs are usually deposited by the female in warm and moist horse manure in masses in the crevices. They hatch in about 24 hours after oviposition. The freshly hatched larvæ, or maggots, are .07 inch in length, tapering at or pointed at the head end and blunt at the other. They moult, or change their skins, three times, and the entire life of the larvæ is from five to seven days. After the third molt it changes to an inactive or resting stage, the pupa or puparium. This is a small, elongate brown, segmented object, rounded at the ends, and contains the chrysalis. This latter stage lasts from five to seven days, when the imago appears. Thus, the whole life cycle is about 15 days.

This insect will oviposit in horse manure, decayed vegetables, decayed meats, cow dung, fowls' dung and human excrement. The vast majority of them are, however, bred in horse excrement.

The house-fly has long been considered a nuisance, but it was held at one time that they were beneficial insects, owing to the habits of the larvæ in the destruction of effete substances.

Sir John Lubbock (1871) also calls attention to the fact that flies alight on decomposing matter and carry that which is impure and unwholesome, notably the secretions of unhealthy wounds, and further says: "Far from looking upon them as dipterous angels dancing attendance on Hygeia, regard them rather in the light of winged sponges spreading hither and thither to carry out the foul behests of Contagion."

In 1899 the writer published a brief article calling attention to the danger from the house-fly as a carrier of typhoid fever. The communication was made at a meeting of the Entomological Section of the Academy of Natural Sciences of Philadelphia. The Rev. Henry C. McCook, D.D., who was present, stated that he had visited all the principal camps in the United States and Cuba during the war with Spain, and that house-flies swarmed in the mess tents, and that in many of the hospitals the mouths of the sick soldiers were covered with these disgusting insects. About this time it was held by some that house-flies could not carry typhoid fever, because they did not breed in human excrement. This led Howard to investigate the subject, and he published his paper (1900) entitled "A Contribution to the Study of the Insect Fauna of Human Excrement."

The knowledge of bacteriology, in conjunction with a knowledge of the habits of the house-fly, its settling on all kinds of food, in addition to its habit of alighting on all sorts of effete germ-laden material, show conclusively that it is a very dangerous insect, so far as the health of mankind is concerned. Its hairy body, legs and feet, in conjunction with the spongy pulvillus, make it an ideal

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carrier of bacteria. That it is a good destroyer of decomposing and fermenting animal and vegetable matter is also true, but it is so dangerous in other ways that it is incumbent upon humanity to take care of and do away with effete material. If this is done, the fly ceases to be necessary as a scavenger.

Wherever flies can gain access to material containing the bacillus typhosus they are almost certain to carry it to food.

House-flies have long been suspected of being agents in the dissemination of cholera, and a number of articles have appeared on the subject since 1853. That they contaminate the food of the well from the vomit or dejecta of those ill from the disease in times of epidemics is undeniable. The worst cholera months are said to be those in which these insects are most abundant. It is also known to carry other intestinal diseases. So far as known, the house-fly is only a mechanical conveyor of bacteria.

Some of the well-known remedies need only be mentioned briefly; as, sooner or later, preventive measures will come to the fore. Wire screens, sticky papers, poison papers, wire traps, fumigation with pyrethrum powder, etc., all have a limited use. It costs anywhere from 10 cents to $500 to screen a house, and it hardly seems fair that stable-owners should impose this tax on their neighbors. Moreover, it might be proper to ask them to pay physicians' fees, nurses' and druggists' bills where sickness is caused by neglected stables.

The keynote to the situation is along the line of prevention. Horse manure bears about the same relation to the house-fly that stagnant water does to the mosquito. If this insect is prevented from ovipositing in manure, the fly as a pest would be largely a thing of the past. Various substances have been mixed with manure to destroy the fly larvæ, such as kerosene, chloride of lime, "residual oil," lime and phosphates. These have been used with more or less success. Stable should have smooth and hard floors and be kept clean, so that manure cannot accumulate. It should be stored in properly constructed bins or screened apartments. A good method is to ram it tightly in barrels that can be tightly covered. In towns and villages it would probably pay to have it collected at stated intervals, as is the case with garbage and ashes. The automobile may become a factor in the destruction of house-flies, as in the near future the horse may have only a limited use. The problem is a very simple one, and as soon as preventive measures are inaugurated more extensively the effective and economical measures will be discovered.

The house-fly problem at the present time involves the awakening of the people to the exigencies of the case, and the necessity of preventive measures and the expense necessary would be justified by the result.

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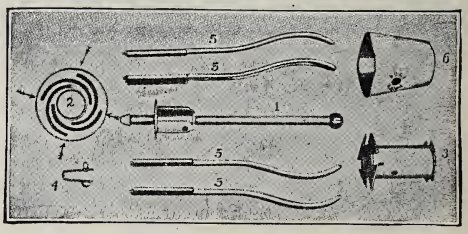

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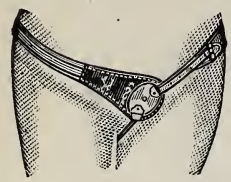

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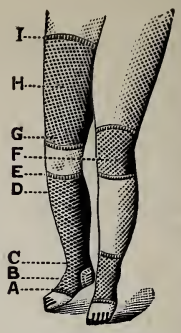

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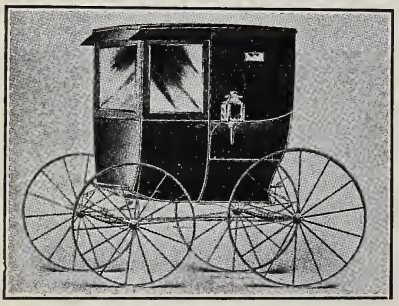

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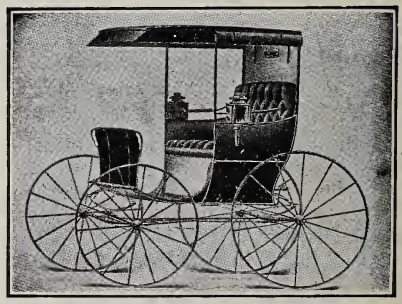

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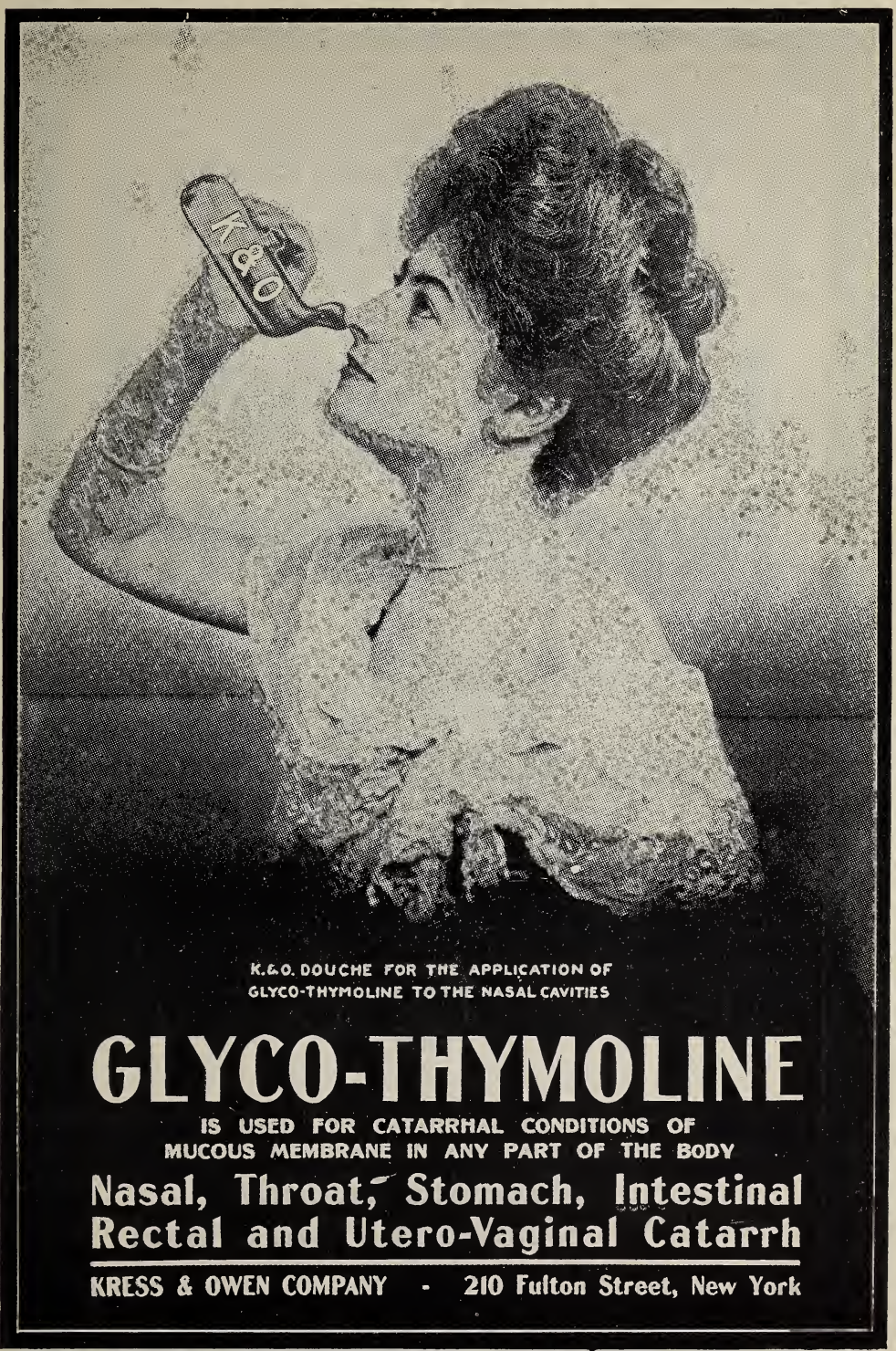
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SECTION OF NEUROLOGY. 2d Friday, monthly. Chairman, W. R. DUNTON, M.D.; Secretary, I. J. SPEAR, M.D.

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JOHNS HOPKINS HOSPITAL HISTORICAL CLUB. 2d Monday, 8.30 P. M., Johns Hopkins Hospital. President, HARVEY CUSHING, M.D.; Secretary, T. B. FUTCHER, M.D.

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MARYLAND STATE HOMEOPATHIC MEDICAL SOCIETY. 3d Tuesday in May and October. President, LEWIS R. PALMER, Baltimore; Secretary, WM. C. BODE, Baltimore; Corresponding Secretary, J. WARD WISNER, Baltimore.

MEDICAL JOURNAL CLUB. 2d Saturday, 8.30 P. M. President, T. W. LORD, M.D.; Secretary, R. WARFIELD, M.D.

MEDICAL SOCIETY OF WOMAN'S MEDICAL COLLEGE. 4th Tuesday in each month, 8.30 P. M. President, GEORGE A. FLEMING, M.D.; Recording Secretary, ELIZABETH A. KEAY; Treasurer, AGNES HOCKADAY.

UNIVERSITY OF MARYLAND MEDICAL ASSOCIATION. 3d Tuesday, October to May, 8.30 P. M.; Hospital Amphitheater. President, A. M. SHIPLEY, M.D.; Secretary, J. T. O'MARA, M.D.

County Societies.

ALLEGANY COUNTY MEDICAL SOCIETY. Cumberland, every Wednesday. President, TIMOTHY GRIFFITH, M.D., Frostburg, Md.; Secretary, CHARLOTTE B. GARDNER, M.D., Cumberland.

ANNE ARUNDEL COUNTY MEDICAL SOCIETY. President, THOMAS H. BRAYSHAW, M.D., Glenburnie; Secretary, L. B. HENKEL, JR., M.D., Annapolis. 2d Tuesday of January, April, July and October.

BALTIMORE COUNTY MEDICAL ASSOCIATION. Towson, 3d Thursday, April to October, 2 P. M.; November to March, 1 P. M. President, BENNETT F. BUSSEY, M.D.; Corresponding Secretary, R. C. MASSENBURG, M.D., Towson, Md.

CALVERT COUNTY MEDICAL SOCIETY. Second Tuesday in April, August and December; annual meeting 2d Tuesday in December. President, E. H. HINMAN, M.D., Lower Marlboro; Secretary, W. H. TALBOTT, M.D., Willows, Md.

CAROLINE COUNTY MEDICAL SOCIETY. President, THEODORE SAULSBURY, M.D.; Secretary, J. R. DOWNS, M.D., Preston, Md.

CARROLL COUNTY MEDICAL SOCIETY. April, July, October, December; annual meeting, December. President, CLOTWORTHY BIRNIE, M.D., Taneytown, Md.; Secretary, CHARLES R. FOUTZ, Westminster.

CECIL COUNTY MEDICAL SOCIETY. 3d Thursday (quarterly) at Elkton; annual meeting in April. President, H. BRATTON, M.D., Elkton, Md.; Secretary, C. P. CARRICO, M.D., Cherry Hill, Md.

CHARLES COUNTY MEDICAL SOCIETY. Meetings 3d Tuesday in May, August and November. President, JOHN W. MITCHELL, M.D., Pomonkey, Md.; Secretary, THOMAS S. OWEN, M.D., La Plata, Md.

DORCHESTER COUNTY MEDICAL SOCIETY. Meeting first Tuesday in May and December at Cambridge. President, JOHN MACE, M.D.; Cambridge; Secretary, W. H. HOUSTON, M.D., Fishing Creek, Md.

FREDERICK COUNTY MEDICAL SOCIETY. January, April, August and November. President, T. C. ROUSTON, M.D.; Secretary, F. B. SMITH, M.D., Frederick, Md.

GARRETT COUNTY MEDICAL SOCIETY. Second Tuesday in May. President, H. W. MCCOMAS, M.D., Oakland; Secretary, J. G. SELBY, Eglon, W. Va.

HARFORD MEDICAL ASSOCIATION. 2d Wednesday in January, March, May, July, September, November. President, CHAS. BAGLEY, M.D., Bagley, Md.; Secretary, R. S. PAGE, M.D., Belair, Md.

HOWARD COUNTY MEDICAL SOCIETY. January 8, Ellicott City, and 1st Tuesday in April, July and October. President, W. W. CISSEL, Highland, Md.; Secretary, F. O. MILLER, M.D., Ellicott City, Md.

KENT COUNTY MEDICAL SOCIETY. President, G. I. BARWICK, M.D., Kennedyville, Md.; Secretary, H. G. SIMPERS, Chestertown, Md.

MONTGOMERY COUNTY MEDICAL SOCIETY. Meetings 3d Tuesday in April and October. President, C. FARQHAR, Olney, Md.; Secretary, J. L. LEWIS, Bethesda, Md.

PRINCE GEORGE'S COUNTY MEDICAL ASSOCIATION. 2d Saturday of December and of every odd month. President, S. M. MCMILLAN, M.D., Riverdale, Md.; Secretary, H. B. MCDONNELL, M.D., College Park, Md.

QUEEN ANNE'S COUNTY MEDICAL SOCIETY. President, W. G. COPPAGE, M.D., Church Hill, Md.; Secretary, E. F. SMITH, M.D., Centerville, Md.

ST. MARY'S COUNTY MEDICAL SOCIETY. 2d Tuesday in May and October, at Leonardtown, Md. President, THOMAS LYNCH, M.D., Leonardtown, Md.; Secretary, J. O. KING, M.D., Oakville, Md.

SOMERSET COUNTY MEDICAL SOCIETY. 1st Tuesday in April at Crisfield, 1st Tuesday in November at Princess Anne. President, WM. F. HALL, Crisfield, Md.; Secretary, RALPH L. HOYT, M.D., Oriole.

TALBOT COUNTY MEDICAL SOCIETY. Annual meeting 3d Tuesday in November, and semi-annual meeting 3d Tuesday in May, Courthouse, Talbot Co., Md. President, CHARLES H. ROSE, M.D., Cordova, Md.; Secretary, S. DENNY WILSON, M.D., Easton, Md.

WASHINGTON COUNTY MEDICAL SOCIETY. Meetings 2d Tuesday of February, May, September and November. President, W. P. MILLER, M.D., Hagerstown, Md.; Secretary, S. M. WAGAMAN, M.D., Hagerstown, Md.

WICOMICO COUNTY MEDICAL SOCIETY. President, F. M. SLEMONS, M.D.; Secretary. E. W. HUMPHREYS, M.D., Salisbury, Md.

WORCESTER COUNTY MEDICAL SOCIETY. Meetings, May 18 and October 26. President, J. S. AYDELOTTE, M.D., Snow Hill, Md.; Secretary, R. LEE HALL, M.D., Pocomoke City, Md.

NATIONAL MEDICAL MEETINGS, 1909

SOCIETY.	SECRETARY.	NEXT ANNUAL MEETING.
American Academy of Medicine	Charles McIntire, 52 N. 4th St., Easton, Pa.	St. Louis, June 4-6, '10
" Acad. of Opthal. and Oto-Laryngology	Geo. F. Suker. M.D., 103 State St., Chicago, Ill.	
" Anatomists, Association of	G. Carl Huber, Ann Harbor, Mich.	Baltimore, Md., 1909
" Army and Navy Medical Association	E. P. Bartlett, Springfield, Ill.	
" Assn. of Genit. Urinary Surgeons	E. L. Keyes, Jr., 109 E. 34th St., New York	
" Assn. of Medical Examiners	John Guy Monihan, 90 William St., New York	
" Assn. of Military Surgeons of the U.S.	Major James E. Pilcher. Richmond, Va.	Washington, D. C., 1909
" Assn. of Path. and Bacteriologists	H. C. Ernst, Harvard Medical School, Boston	Washington, D. C., May, 1910
" Assn. of Railway Surgeons	Louis J. Mitchell, 67 Wabash Ave., Chicago	Chicago, Oct., 1910
" Medical Temperance Association	T. D. Crothers, M.D., Hartford, Conn.	
" Assn. for the Stu. of the Feeble Minded	E. C. Rogers, Fairbault, Minn.	
" Association of Obstetricians and Gyn.	Wm. W. Potter, 238 Delaware Ave., Buffalo	
" Association of Orficial Surgeons	T. E. Costain, M.D., 100 State St., Chicago, Ill.	
" Association of American Physicians.	Henry Hun. 149 Washington Ave., Albany, N. Y.	
" Climatological Association	Guy Hinsdale, Hot Springs, Va.	May 3-5, 1910
" Dermatological Association	James M. F. Winfield, Brooklyn, N. Y.	Washington, 1910
" Electro-Therapeutic Association	J. W. Travell, 27 E. 11th St., New York	
" Gastro-Enterological Association	Chas. D. Aaron, 32 W. Adams Ave., Detroit, Mich.	
" Gynecological Society	Le Roy Brown, 70 W. 82d St., New York	Washington. May, 1910
" Laryn., Rhin. and Otol. Society	Thos. J. Harris, 147 E. 40th St., New York	
" Laryngological Association	J. E. Newcomb, 118 N. 69th St., New York	Boston, 1909
" Medical Association	G. H. Simmons, 103 Dearborn Ave., Chicago	St. Louis, May, 1910
" Medical Editors' Association	J. MacDonald. Jr., M.D., New York, N. Y.	
" Medico-Psychological Association	C. W. Pilgrim, Poughkeepsie, N. Y.	Atlantic City, N. J., 1909
" Medical Colleges, Association of	F. C. Zapffe, 1764 Lexington St., Chicago, Ill.	
" Neurological Association	Alfred R. Allen, Philadelphia. Pa.	Washington, 1910
" Ophthalmological Society	W. M. Sweet, 1205 Spruce St., Phila.	
" Orthopedic Association	Robt. B. Osgood, 372 Marlborough St., Boston.	Washington, May, 1910
" Otological Society	F. L. Jack, 215 Beacon St., Boston, Mass.	
" Pediatric Society	Samuel S. Adams, 1 Dupont Circle, Wash., D. C.	Washington, May, 1910
" Physio-Therapeutic Association	Otto Juettuer, M. D., 8 W. 9th St., Cincinnati, O.	
" Physicians, Association of	Geo. M. Kober, 1819 Q St., Washington, D. C.	
" Proctologic Society	L. H. Adler, Jr., 1610 Arch St., Phila,, Pa.	
" Public Health Association	C. O. Probst, Columbus, Ohio.	
" Roentgen Ray Society	Dr. Geo. C. Johnston, Pittsburg, Pa.	
" Surgical Association	Robt. G. LeConte, 1530 Locust St., Phila.	Philadelphia, 1909
" Therapeutic Society	Noble P. Barnes, Washington, D. C.	
" Urological Association	Hugh Cabot, 1 Marlborough St., Boston	
Assn. Med. Officers A. and N. of Confederacy	A. A. Lyon. M.D., Nashville, Tenn.	
Baltimore & Ohio Assn. of Railway Surgeons.	T A. Murphy, B. & O. Bldg., Baltimore, Md.	
British Medical Association	George Elliott, Toronto, Canada.	Cincinnati, O.
Canadian Medical Association	George Elliott, M.D., Toronto, Canada.	
Con. of State and Prov. Bds. of N. A.	H. M. Bracken, St. Paul, Minn.	
International Congress on Tuberculosis	J. S. Fulton, M.D., Colorado Bldg., Wash., D. C.	Rome, 1911
Mississippi Valley Medical Association	H. E. Tuley, 111 W. Kentucky, Louisville, Ky.	
Missouri Valley, Medical Society of the	Chas. Wood Fassett, St. Joseph, Mo.	
Nat. Con. State Med. Exam. and Lic. Boards.	A. W. Suiter, Herkimer, N. Y.	
Nat. Asso. for Prevention of Tuberculosis.	Dr. H. B. Jacobs, 11 W. Mt. Vernon Pl., Balto., Md.	
Pan-American Congress, Fifth	Dr. Ramon Guiteras	
Seaboard Medical Assn. of Va. and N. Car.	John R. Bagby, M. D., Newport News, Va.	
Southern Medical College Association	L. C. Morris, M.D., Birmingham, Ala.	
Southern Surgical and Gyn. Association	W. D. Haggard, Nashville, Tenn.	Hot Springs, Va., Dec. 14-16, '09
Southern Medical Association	Oscar Dowling, Shreveport, La	
Tri-Medical Soc. of Md., W. Va. and W. Pa.	Percival Lantz, Alaska, W. Va.	
Tri-Medical Society of N. C., S. C. and Va.	R. E. Hughes, M. D., Laurens, S. C.	
Tri-State Med. Assn. of Miss., Ark. and Tenn.	R. McKinney, Memphis, Tenn.	
Tri-State Med. Society of Iowa, Ill, and Mo.	Jos. E. Chambers, M.D., 918 Pine St., St. Louis, Mo	
Western Surgical and Gyn. Association	A. T. Mann, M.D., Minneapolis, Minn.	Omaha, Neb., Dec. 20-21, '09

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Formula.—Each tablespoonful contains: The amorphous sodium salt of the natural bile acid (sodium glycocholate, 2 gr.; sodium salicylate, from natural oil of wintergreen, 2½ gr.; pancreatin, prepared from the fresh, moist gland and deprived of its inert mucinous material, 5 gr.; sodium bicarbonate, chemically pure, 5 gr., in a palatable carminative vehicle.

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Medical Advertisements
PAGE II

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action, and thus tends to (1) overcome hepatic insufficiency, (2) increase the formation of bile, (3) promote the flow of bile, (4) liquefy the bile, (5) relieve catarrhal and inflammatory conditions of the bile-tract, (6) increase the percentage of normal bile acids in the bile, and thus hold the cholesterin in solution, preventing its deposition and the formation of gallstones. Incidentally, it tends to (1) relieve chronic constipation, especially when due to biliary stasis; (2) check intestinal fermentation and putrefaction, (3) prevent and relieve intestinal autotoxemia.

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The Director of Exhibits of the Alaska-Yukon-Pacific Exposition announces that the Jury of Awards has awarded the H. K. Mulford Company of Philadelphia the Grand Prize for antitoxin and special syringe container, the Grand Prizes on tuberculins and serial dilutions of same, and the Gold Medal for biological products—the highest awards granted.

The H. K. Mulford Company are to be congratulated upon their triumph. The Grand Prize on antitoxin and special container is a

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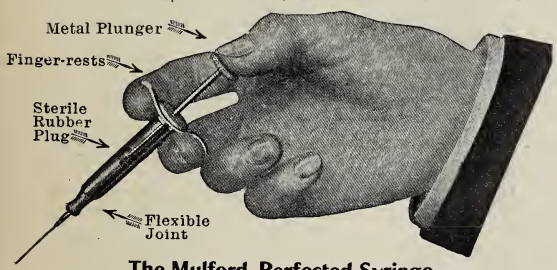
The jury also recognized the importance of bacterins and of tuberculins of graduated potency as therapeutic agents by grouping them with vaccines employed for the prevention of smallpox. Antitoxins, bacterins and vaccines are three epoch-making products, representing



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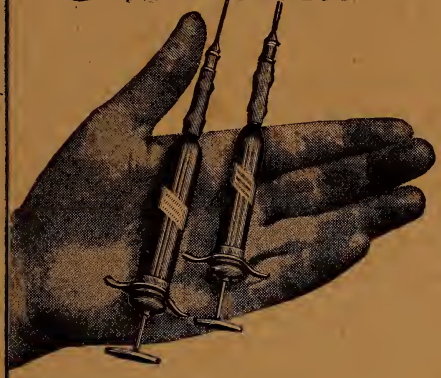

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